

APPENDIX D.2 TEST WELL PROGRAM

INTRODUCTION

This appendix documents the procedures used for implementation of a test well and aquifer pump testing program to investigate the water supply characteristics of the groundwater-bearing sediments underlying the site. The objectives of the program were to investigate the hydrostratigraphy, aquifer parameters and water quality in the area of the site, which is located north of Ford Dry Lake in the eastern portion of the Chuckwalla Valley Groundwater Basin near the city of Blythe in Riverside County, California. This information will be used to develop specifications for construction of water supply wells, to evaluate the quality of groundwater available for the project, and to supplement published information and data available from public sources for use in evaluation of potential impacts to groundwater resources in accordance with the requirements of the California Energy Commission (CEC) Data Adequacy Requirements for an Application for Certification.

BACKGROUND

Work associated with implementation of the test well and aquifer testing program included construction of a shallow monitoring well, a test well and installation of direct-buried pressure transducers. This work was followed by a constant discharge pumping test to gather the necessary data to characterize aquifer properties in the upper portion of the Bouse Formation aquifer, including aquifer parameters, boundary conditions, potential vertical flow induced by pumping, and properties of the clay stratum at the top of the Bouse Formation.

SUMMARY OF WORK PERFORMED

Pre-Field Activities

A Project Safety Plan was prepared for the work. In addition, the following permits were obtained for the work:

- A Temporary Use Permit Application (SF-299) was submitted to the United States Department of the Interior, Bureau of Land Management (BLM) and a Finding of No Significant Impact (FONSI) was issued on ????. The SF-299 and NOI are included in Attachment 1.
- Well installation permits were obtained from the Riverside County Department of Health Services and are included in Attachment 1.
- A Notice of Intent (NOI) was filed with the Colorado River Basin Regional Water Quality Control Board (RWQCB) to discharge groundwater from well development activities and the aquifer pumping test to a spray field. The NOI and Letter of Authorization from the RWQCB are included in Attachment 1.

Shallow Observation Well 1 (OBS-1)

A shallow monitoring well was initially constructed at the site by drilling a nominal 10-inch diameter boring to approximately 160 feet below ground surface (bgs) using Air Rotary Casing Hammer (ARCH) drilling methods. Lithologic logs were prepared in accordance with Unified Soil Classification System (USCS) methodologies and American Society of Testing Materials (ASTM) guidelines. Samples were collected approximately every ten feet and screened for classification. The well construction details and lithologic log are included in Attachment 2. The final lithologic log was adjusted based on geophysical logging of the test well and transducer boring (included in Attachment 3) and results of the physical analysis of soil samples for hydrogeologic parameters by a geotechnical laboratory included in **AFC Appendix Subset D.7**.

The total well depth is approximately 155 feet bgs using 4-inch diameter, Schedule 80 PVC casing and factory-slotted screen with 0.010-inch perforations. The screened interval was placed from 100 to 150 feet bgs above a five-foot silt trap. All annular materials were placed using a PVC tremie pipe. # 2/16 Lapis Lustre sand was placed as a filter pack to approximately 10 feet above and 5 feet below the screened interval. The filter pack was surged with fresh water to verify compaction and depth of placement. The annular seal, consisting of a 5-foot transition seal (hydrated bentonite chips), 65 foot grout seal, and 20 foot neat cement seal, were installed above the filter pack to ground surface per California Well Standards (Bulletin 74-90) and County of Riverside well permit requirements. The well was completed on May 9, 2009. Observed depth to groundwater in the shallow monitoring well was approximately 76.77 feet bgs, as measured on May 25, 2009. The Lithologic Log of OBS-01 shows the observed depth to groundwater.

The well was developed by lowering a surge block to draw fine grained material into the well followed by bailing until most fines/particulates were removed from the well. Groundwater was then pumped until the water was relatively clear. The water was pumped to and retained in on onsite water storage tank and was used to supply water for on-site operations including dust control and road repair.

Test Well (TW-1)

The test well was constructed at the site by drilling a 10-inch diameter boring to approximately 564 feet bgs using the Mud Rotary drilling method. A lithologic log was prepared in accordance with Unified Soil Classification System (USCS) methodologies and American Society of Testing Materials (ASTM) guidelines. The well construction details and lithologic log is attached to this appendix. The final lithologic log was adjusted based on geophysical logging of the test well and transducer boring (included in Attachment 3) and results of the physical analysis of soil samples for hydrogeologic parameters by a geotechnical laboratory included in **AFC Appendix Subset D.7**.

Following the drilling of the borehole, the mud was conditioned and a down-hole geophysical survey of the borehole was performed by Pacific Surveys. The geophysical suite included acoustic (sonic) velocity, variable density, short and long normal resistivity, lateral log spontaneous potential, gamma-ray, borehole deviation, and caliper. The results of the survey are included in Attachment 3.

Following the geophysical survey, the well was installed to approximately 555 feet bgs using 5-inch diameter mild steel casing and wire wound screen with 0.030-inch perforations. The screened interval was placed from 350 to 550 feet bgs above a 5-foot silt trap. All annular materials were placed using a PVC tremie pipe. A sand pack consisting of # 3 Lapis Lustre sand was placed as a filter pack to

approximately 10 feet above and 14 feet below the screened interval. The filter pack was surged with fresh water to verify compaction and depth of placement. The annular seal, consisting of a 7-foot transition seal (hydrated bentonite chips), 313 foot bentonite grout seal, and a 20 foot neat cement seal, was installed above the filter pack to ground surface according to California Well Standards (Bulletin 74-90) and County of Riverside well permit requirements. The installation was completed on May 22, 2009. Observed depth to groundwater in the test well was approximately 88.26 feet bgs, as measured on May 23, 2009. The Adjusted Lithologic Log of TW-1 shows the observed depth to groundwater.

The well was developed by lowering a surge block to draw fine grained material into the well followed by bailing until most fines/particulates and residual drilling mud were removed from the well. Groundwater was then pumped until the water was relatively clear.

Observation Well 2 – Direct Buried Pressure Transducer Assembly (OBS-2)

Following the installation of the test well, a 8-inch borehole was advanced to approximately 230 feet using the dual wall reverse circulation method, and then to 900 feet bgs using the Mud Rotary drilling method. Soil core samples were collected for logging and laboratory testing at 5-foot vertical intervals to a depth of approximately 75 feet bgs using a Modified California split spoon sampler driven using a standard 140-pound hammer. In addition, soil core samples were collected from depths of approximately 600, 700 and 800 feet bgs using a hammer-driven Simulprobe®. A lithologic log was prepared in accordance with USCS methodologies, ASTM guidelines, and based on laboratory grain size analysis from selected samples and geophysical logs obtained from the borehole. The final lithologic log was adjusted based on the cuttings logs from the shallow monitoring well and the test well, the geophysical log from the test well and geophysical logging of the boring drilled for OBS-2. The well construction details and lithologic log is included in Attachment 2. The results of the physical analysis of soil samples for hydrogeologic parameters is included in **Appendix Subset D.7**.

Following the drilling of the borehole, the mud was conditioned and a down-hole geophysical survey of the borehole was performed by Pacific Surveys. The geophysical suite included short and long normal resistivity, lateral log and gamma-ray. The results of the survey are included in Attachment 3.

Depth-discreet groundwater samples were collected from approximately 600, 700, and 800 feet bgs using BESST, Inc. Simulprobe® sampling methodologies. The Simulprobe® is a split-spoon sampler with integral groundwater grab sampling capabilities. Simulprobe operating procedures and additional information can be found on the BESST, Inc. website <http://www.besstinc.com/>. Laboratory analytical reports for these analyses are included in **AFC Appendix Subset D.3**.

After completion of geophysical logging, the boring was backfilled to a depth of approximately 405 feet bgs with bentonite grout using the tremie method. The remaining boring was then reamed using a 10-inch bit. After reaming the mud was removed and thinned, and four Geokon vibrating wire pressure transducers were installed at depths of approximately 400, 370, 315, and 270 feet bgs. The pressure transducers were placed within sand filter packs consisting of # 3 Lapis Lustre sand placed above the below the transducer. Transducer sand pack intervals were separated by hydrated bentonite chips. All annular materials were placed using a PVC tremie pipe. The installation was completed on July 2, 2009. The Lithologic Log of OBS-2 shows the subsurface lithology and completion details for the transducers.

Pumping Test

Prior to the pumping test, water levels were measured in wells TW-1 and OBS-1. Pressure transducers with vented cables were installed in the shallow observation well and the test well to measure water levels for the duration of the pumping test. A pump capable of achieving approximately 100 gpm was installed in the test well. The pump was set at approximately 260 feet bgs.

From July 9 to 16, 2009, a seven day constant discharge pumping test was started. Groundwater discharge was periodically monitored using a flow totalizer and flow meter and recorded. The discharge was maintained at 87 gpm within +/- 5% for the duration of the test. A continuous (24-hours/day) source of power to the pump was maintained for the duration of the pumping test. Hand water level measurements were collected periodically for later comparison to pressure transducer read-outs. Real-time monitoring of pressure transducer data in the data logger was conducted to assess drawdown magnitude and verify the pressure transducers were functioning properly. Electrical conductivity, pH, and total dissolved solids (TDS) measurements were collected at regular intervals for the duration of the test using a Hannah Instruments multimeter. Groundwater samples were collected from the pump discharge at the beginning, middle and end of the pumping test and analyzed for general mineral parameters, major cations and anions, trace metals, and gross alpha radiation. The results of the analysis are included in **AFC Appendix Subset D.3**.

Pump test water was discharged to a holding tank and disposed to a spray field under permit from the RWQCB. The spray field was moved twice a day to decrease salt loading of the ground surface due to the salinity of the water being discharged.

The pump was turned off on July 16, 2009, Transducer water level data were collected for a full seven day recovery period after cessation of pumping. After completion of the recovery period, the pump was removed from the well and the spray field was demobilized.

ATTACHMENT 1: PERMITS



RIVERSIDE COUNTY COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH

WELL DRILLING PERMIT

WP#: 0019920

ALL ELECTRICAL, PLUMBING, MECHANICAL, AND STRUCTURAL
REPAIRS AND INSTALLATIONS SHALL BE DONE UNDER PERMIT
FROM RIVERSIDE COUNTY DEPT. OF BUILDING AND SAFETY.

Approved Date : 5/4/09

Expiration Date : 11/4/09

Fee : \$138.72

(non-refundable)

This permit is granted on condition that the person named in the permit will comply with the laws, ordinances and regulations that are now or may hereafter be in force. (This is not a permit to operate a water system.)

APN: 818-200-004 Sec. 1 ; T 6S ; R 18E

PERMIT DESCRIPTION : **Monitoring (Initial)**

PHYSICAL ADDRESS/LOCATION OF WELL : **Genesis Ford Dry Lake**
Blythe

OWNER : **Bureau of Land Management**
1201 Bird Center Drive
Palm Springs, CA. 92262

DRILLER : **WDC Exploration & Wells**
COUNTY REGISTRATION # : **PI0000034**
PHONE # : **(909)931-4014**

Note: It is the owner's responsibility to verify that a Driller's C-57 license is current with the California Contractors State Licensing Board.

**COUNTY OF RIVERSIDE COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

(For Construction, Reconstruction & Destruction)

EH W090155

- ☒ 4080 Lemon Street, 2nd Floor / P.O. Box 1206 - Riverside, CA 92502 - (951) 955-8980
☐ 82675 Hwy. 111, CAC - Indio, CA 92201 - (760) 863-7000
☐ 39493 Los Alamos - Murrieta, CA 92563 - (951) 600-6180

PLEASE REPLY TO ADDRESS CHECKED ABOVE

NOTE: Any abandoned wells on the property must be properly destroyed before an application for construction or reconstruction can be processed.

Please Print

FOR DEPARTMENT USE ONLY

Permit No. 09-WP0019920 (1 of 3)

Expiration 11-4-09

1. OWNER: Name Bureau of Land Management
 Mailing Address 1201 Bird Center Dr.
 City Palm Springs State CA
 Zip 92262 Phone No. 760-833-7104

2. DATE OF WORK (approximate):
 Start 5/4/2009 Complete 6/23/2009

3. WELL DRILLER
 Name WDC Exploration & Wells
 Riv. Co. Registration No. WDR-09-051
 C-57 License No. #283326 (P10060034)

4. WELL CHECK (check)
☐ Community ☒ Monitoring ☐ Industrial
☐ Individual ☐ Cathodic ☒ Other
☐ Agricultural ☐ Horizontal transducer

4A. FOR MONITORING WELL: (Name of Consultant)
 Name WorleyParsons Phone 916-817-8390
Michelle Scott

5. TYPE OF WORK (check)
☒ New ☐ Reconstruction ☐ Destruction

5A. If reconstruction or destruction, please describe method on reverse side of attached Plot Plan.

6. ANNUAL SEAL: (various depths- see attached table)
 Depth 510 ft. - must provide proper 20' seal - float cement to surface
 Borehole Diam. 6" in. No openings
 Conductor Diam. 0 in.
 Annular Thickness 0 in.
 Sealing Material GROUT/Cement

7. DEPTH OF WELL (feet)
 Proposed 510' Existing _____
 DIAMETER OF BORE (in.) 6"

8. PRODUCTION WELL CASING INSTALLED: N/A

☐ Steel ☐ Plastic ☐ Other

From (ft.)	To (ft.)	Dia. (in.)	Wall (Gage)

GRAVEL PACK: ☒ Yes ☐ No

From see attached table ft.

Type of rig Dual tube reverse circulation

9. PERFORATIONS (if applicable):
 From N/A to _____ ft.

10. SEALED ZONES (if applicable):
 From see attached table ft.

11A. The California Labor code requires Worker's Compensation Insurance as a prerequisite to permit issuance unless the applicant signs the following certificate: I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers Compensation Insurance laws of California.

Driller's Signature _____ Date _____

11B. I have read this application and agree to comply with all laws regulating the type of work being performed.

Driller's Signature James P. O'Connor Date 4-30-09

12. I declare under penalty of perjury under the laws of the State of California that the information furnished as part of this application is true and correct. I also understand that I am legally obligated to obey all requirements of state law and Riverside County Ordinances in connection with the approval of this application.

Property Owner's Signature Darryl L. Roberts Date 4/30/09

DISPOSITION OF PERMIT

Approved subject to the following:

FOR DEPARTMENT USE ONLY

- A. Notify the Department, , forty-eight (48) hours in advance to make an inspection of the following operations:
☒ Prior to sealing of the annular space or filling of the conductor casing.
☐ Verify the depth of the conductor (outer) casing prior to further drilling and installation of the inner casing.
☐ After installation of the surface protective slab and pumping equipment.
☐ During destruction of wells, prior to pouring the sealing material.

B. Approved Plot Plan.

C. Submit to the Department within thirty (60) days after completion of work, a copy of:
☒ Water Well Driller's Report (DWR 188).

NOTE: Property located within the Rancho California Water District may be subject to an existing Agency Agreement with said District.

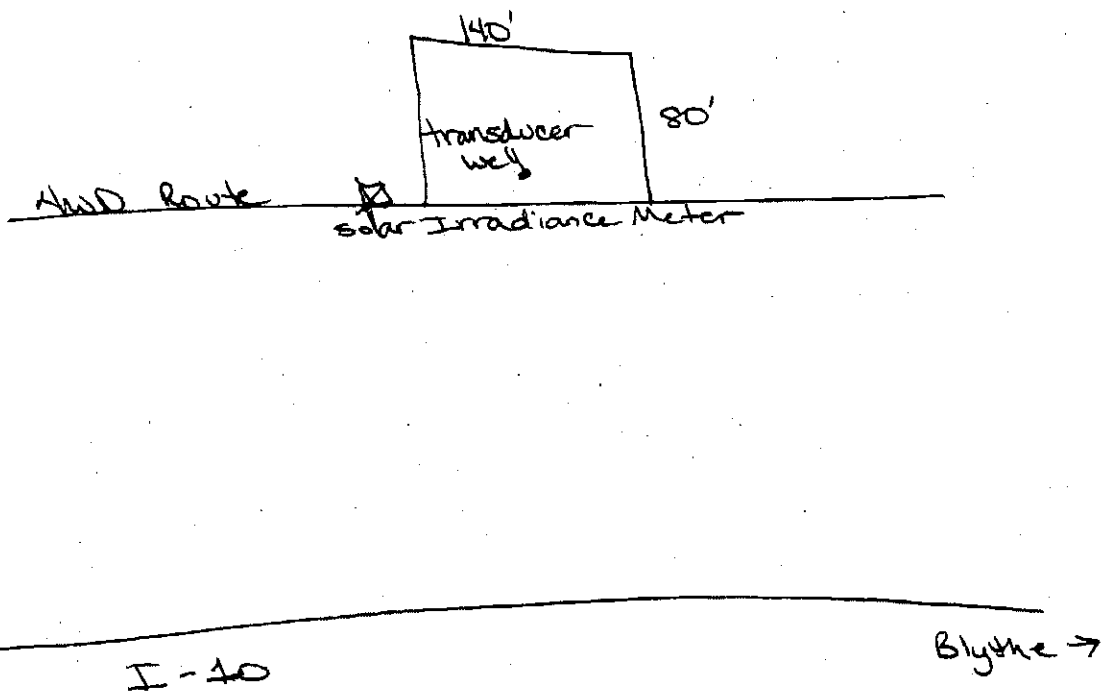
D. Other: _____

COUNTY OF RIVERSIDE COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTHOWNER'S NAME: Bureau of Land ManagementSITE: Genesis Ford Dry LakeCITY: Blythe, CAASSESSOR'S P.M. NO.: 818200004

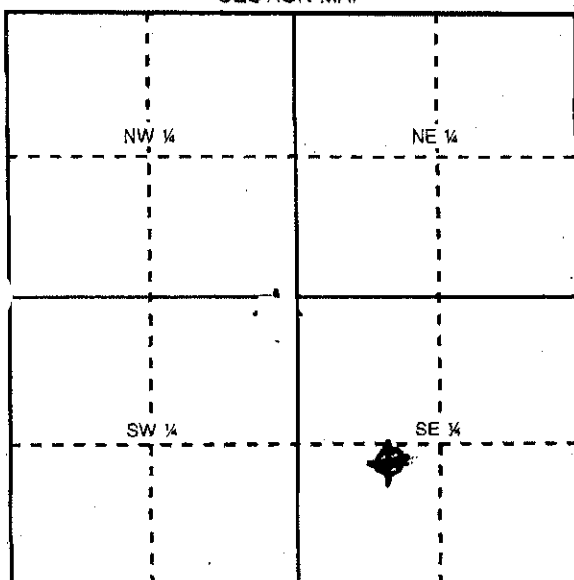
Department Use Only

PERMIT NO. WP0019920

North

TOWNSHIP 6S RANGE 18E SECTION 1 $\frac{1}{4}$ SECT SE 1/4 $\frac{1}{4}$ SECT. SW**NOTE:** Please see reverse side for information which must be shown on this Plot plan in order to process this permit application.

SECTION MAP



VICINITY MAP



RIVERSIDE COUNTY COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH

WELL DRILLING PERMIT

WP#: 0019921

ALL ELECTRICAL, PLUMBING, MECHANICAL, AND STRUCTURAL
REPAIRS AND INSTALLATIONS SHALL BE DONE UNDER PERMIT
FROM RIVERSIDE COUNTY DEPT. OF BUILDING AND SAFETY.

Approved Date : 5/4/09

Expiration Date : 11/4/09

Fee : \$ 268.26
(non-refundable)

This permit is granted on condition that the person named in the permit will comply with the laws, ordinances and regulations that are now or may hereafter be in force. (This is not a permit to operate a water system.)

APN: 818-200-004 Sec. 1 ; T 6S ; R 18E

PERMIT DESCRIPTION : Industrial/Other

PHYSICAL ADDRESS/LOCATION OF WELL : Genesis Ford Dry Lakes-Blythe

OWNER : Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA.
92262

DRILLER : WDC Exploration & Wells
COUNTY REGISTRATION # : PI0000034
PHONE # : (909)931-4014

Note: It is the owner's responsibility to verify that a Driller's C-57 license is current with the California Contractors State Licensing Board.

**COUNTY OF RIVERSIDE COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**
(For Construction, Reconstruction & Destruction)

EFTW 090155

- ☒ 4080 Lemon Street, 2nd Floor / P.O. Box 1206 - Riverside, CA 92502 - (951) 955-8980
☐ 82675 Hwy. 111, CAC - Indio, CA 92201 - (760) 863-7000
☐ 39493 Los Alamos - Murrieta, CA 92563 - (951) 600-6180

PLEASE REPLY TO ADDRESS CHECKED ABOVE

NOTE: Any abandoned wells on the property must be properly destroyed before an application for construction or reconstruction can be processed.

Please Print

5-4-09 \$268.26 (other) CK# 1036

FOR DEPARTMENT USE ONLYPermit No. 09-WP0019921 (20F3)Expiration 11-4-09

1. OWNER: Name Bureau of Land Management
 Mailing Address 1201 Bird Center Drive
 City Palm Springs State CA
 Zip 92262 Phone No. 760-833-7104

2. DATE OF WORK (approximate):
 Start 5/4/09 Complete 6/23/09

3. WELL DRILLER
 Name WDC Exploration & Wells
 Riv. Co. Registration No. WDR-09-051
 C-57 License No. 283326

4. WELL CHECK (check)

- ☐ Community ☐ Monitoring ☒ Industrial
☐ Individual ☐ Cathodic ☐ Other
☐ Agricultural ☐ Horizontal

4A. FOR MONITORING WELL: (Name of Consultant)

Name WorleyParsons Phone 916-370-8685
916-817-8390

5. TYPE OF WORK (check)

- ☒ New ☐ Reconstruction ☐ Destruction

5A. If reconstruction or destruction, please describe method on reverse side of attached Plot Plan.

6. ANNUAL SEAL: (See attached table)

Depth 20 ft.Borehole Diam. 12" in.Conductor Diam. N/A in.Annular Thickness 3.5" in.Sealing Material Neat cement

7. DEPTH OF WELL (feet)

Proposed 145' Existing _____DIAMETER OF BORE (in.) 12"

8. PRODUCTION WELL CASING INSTALLED:

- ☐ Steel ☒ Plastic ☐ Other

From (ft.)	To (ft.)	Dia. (in.)	Wall (Gage)
<u>0</u>	<u>145</u>	<u>5"</u>	<u>Sch-80</u>

GRAVEL PACK: ☒ Yes ☐ NoFrom 80' to 140' ft.Type of rig Air Rotary

9. PERFORATIONS (if applicable):

From 90' to 140' ft.

10. SEALED ZONES (if applicable):

From N/A to _____ ft.

11A. The California Labor code requires Worker's Compensation Insurance as a prerequisite to permit issuance unless the applicant signs the following certificate: **I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers Compensation Insurance laws of California.**

Driller's Signature _____

Date _____

B. I have read this application and agree to comply with all laws regulating the type of work being performed.

Driller's Signature Jeffrey P. O'ConnorDate 4-30-09

12. I declare under penalty of perjury under the laws of the State of California that the information furnished as part of this application is true and correct. I also understand that I am legally obligated to obey all requirements of state law and Riverside County Ordinances in connection with the approval of this application.

Property Owner's Signature Dolly L. RobertsDate 4/30/09**DISPOSITION OF PERMIT**

Approved subject to the following:

FOR DEPARTMENT USE ONLY

- A. Notify the Department, , forty-eight (48) hours in advance to make an inspection of the following operations:
☒ Prior to sealing of the annular space or filling of the conductor casing.
☐ Verify the depth of the conductor (outer) casing prior to further drilling and installation of the inner casing.
☐ After installation of the surface protective slab and pumping equipment.
☐ During destruction of wells, prior to pouring the sealing material.

B. Approved Plot Plan.

C. Submit to the Department within thirty (60) days after completion of work, a copy of:

- ☒ Water Well Driller's Report (DWR 188).

NOTE: Property located within the Rancho California Water District may be subject to an existing Agency Agreement with said District.

D. Other: _____

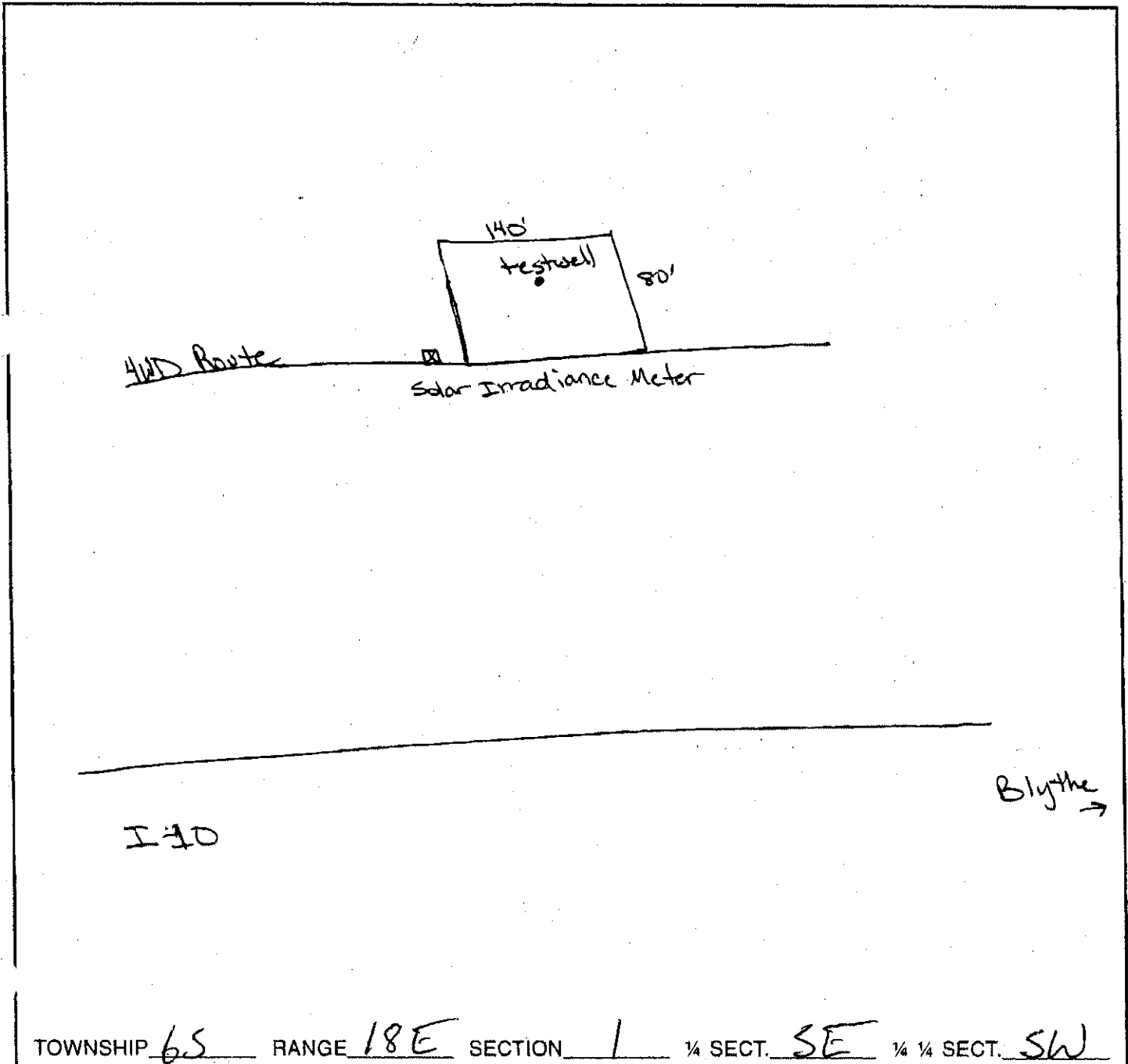
COUNTY OF RIVERSIDE COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH

OWNER'S NAME: Bureau of Land ManagementSITE: Genesis Ford Dry LakesCITY: Blythe, CAASSESSOR'S P.M. NO.: 818200004

Department Use Only

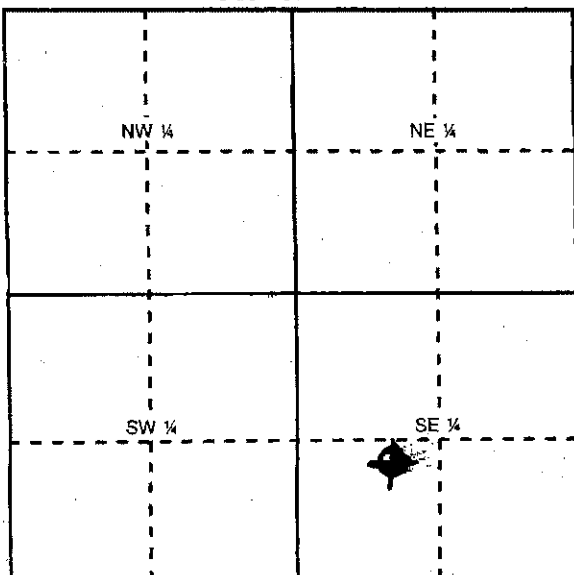
PERMIT NO. WP0019921

North

TOWNSHIP 6S RANGE 18E SECTION 1 $\frac{1}{4}$ SECT. SE $\frac{1}{4}$ $\frac{1}{4}$ SECT. SW

NOTE: Please see reverse side for information which must be shown on this Plot plan in order to process this permit application.

SECTION MAP



VICINITY MAP



RIVERSIDE COUNTY COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH

WELL DRILLING PERMIT

ALL ELECTRICAL, PLUMBING, MECHANICAL, AND STRUCTURAL
REPAIRS AND INSTALLATIONS SHALL BE DONE UNDER PERMIT
FROM RIVERSIDE COUNTY DEPT. OF BUILDING AND SAFETY.

WP#: 0019922

Approved Date : 5/4/09

Expiration Date : 11/4/09

Fee : \$268.26
(non-refundable)

This permit is granted on condition that the person named in the permit will comply with the laws, ordinances and regulations that are now or may hereafter be in force. (This is not a permit to operate a water system.)

APN: 818-200-004 Sec. 1 ; T 6S ; R 18E

PERMIT DESCRIPTION : Industrial/Other

PHYSICAL ADDRESS/LOCATION OF WELL : Genesis Ford Dry Lakes-Blythe

OWNER : Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA.
92262

DRILLER : WDC Exploration & Wells
COUNTY REGISTRATION # : PI0000034
PHONE # : (909)931-4014

Note: It is the owner's responsibility to verify that a Driller's C-57 license is current with the California Contractors State Licensing Board.

**COUNTY OF RIVERSIDE COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

(For Construction, Reconstruction & Destruction)

- ☒ 4080 Lemon Street, 2nd Floor / P.O. Box 1206 - Riverside, CA 92502 - (951) 955-8980
☐ 82675 Hwy. 111, CAG - Indio, CA 92201 - (760) 863-7000
☐ 39493 Los Alamos - Murrieta, CA 92563 - (951) 600-6180

EHW090155

PLEASE REPLY TO ADDRESS CHECKED ABOVE

NOTE: Any abandoned wells on the property must be properly destroyed before an application for construction or reconstruction can be processed.

Please Print

1. OWNER: Name Bureau of Land Management
 Mailing Address 1201 Bird Center Drive
 City Palm Springs State CA
 Zip 92262 Phone No. 760-833-7104

2. DATE OF WORK (approximate):

Start 5/4/2009 Complete 6/23/2009

3. WELL DRILLER

Name WDC Exploration & Wells
 Riv. Co. Registration No. WDR-09-051
 C-57 License No. 283326

4. WELL CHECK (check)

- ☐ Community ☐ Monitoring ☒ Industrial
☐ Individual ☐ Cathodic ☐ Other
☐ Agricultural ☐ Horizontal

4A. FOR MONITORING WELL: (Name of Consultant)

Name WorleyParsons Phone 916-370-8685
916-817-8390

5. TYPE OF WORK (check)

- ☒ New ☐ Reconstruction ☐ Destruction

5A. If reconstruction or destruction, please describe method on reverse side of attached Plot Plan.

11A. The California Labor code requires Worker's Compensation Insurance as a prerequisite to permit issuance unless the applicant signs the following certificate: **I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers Compensation Insurance laws of California.**

Driller's Signature _____ Date _____

11B. I have read this application and agree to comply with all laws regulating the type of work being performed.

Driller's Signature James P. O'Leary Date 4-30-09

12. I declare under penalty of perjury under the laws of the State of California that the information furnished as part of this application is true and correct. I also understand that I am legally obligated to obey all requirements of state law and Riverside County Ordinances in connection with the approval of this application.

Property Owner's Signature Dolly L. Roberts Date 4/30/09

5-4-09 \$268.26 CK #1036

FOR DEPARTMENT USE ONLY

Permit No. 09-WP0019922 (3 of 3)

Expiration 11-4-09

6. ANNUAL SEAL: (see attached table)

Depth 20 ft

Borehole Diam. 10" in.

Conductor Diam. N/A in.

Annular Thickness 2.5" in.

Sealing Material Neat Cement

7. DEPTH OF WELL (feet)

Proposed 655' Existing _____

DIAMETER OF BORE (in.) 10"

8. PRODUCTION WELL CASING INSTALLED:

- ☒ Steel ☐ Plastic ☐ Other

From (ft.)	To (ft.)	Dia. (in.)	Wall (Gage)
<u>0</u>	<u>555'</u>	<u>5'</u>	<u>Sch 40</u>

GRAVEL PACK: ☒ Yes ☐ No

From 340' to 555' ft.

Type of rig mud rotary

9. PERFORATIONS (if applicable):

From 350' to 550' ft.

10. SEALED ZONES (if applicable):

From N/A to _____ ft.

DISPOSITION OF PERMIT

Approved subject to the following:

FOR DEPARTMENT USE ONLY

- A. Notify the Department, , forty-eight (48) hours in advance to make an inspection of the following operations:
☒ Prior to sealing of the annular space or filling of the conductor casing.
☐ Verify the depth of the conductor (outer) casing prior to further drilling and installation of the inner casing.
☐ After installation of the surface protective slab and pumping equipment.
☐ During destruction of wells, prior to pouring the sealing material.

B. Approved Plot Plan.

C. Submit to the Department within thirty (60) days after completion of work, a copy of:

- ☒ Water Well Driller's Report (DWR 188).

NOTE: Property located within the Rancho California Water District may be subject to an existing Agency Agreement with said District.

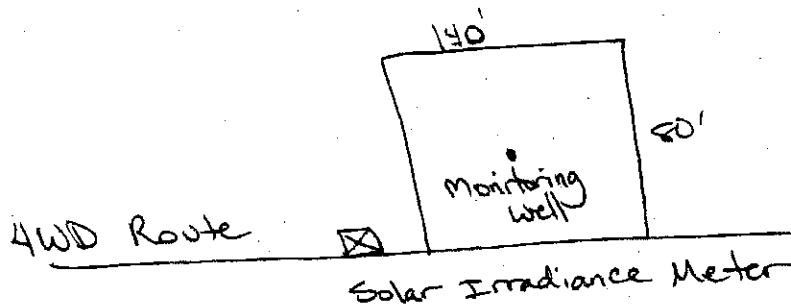
D. Other: _____

COUNTY OF RIVERSIDE COMMUNITY HEALTH AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH

OWNER'S NAME: Borcas Land Management
SITE: Genesis Ford Dry Lakes
CITY: Blythe, CA
ASSESSOR'S P.M. NO.: 818200004

Department Use Only
PERMIT NO. WP0019922

North



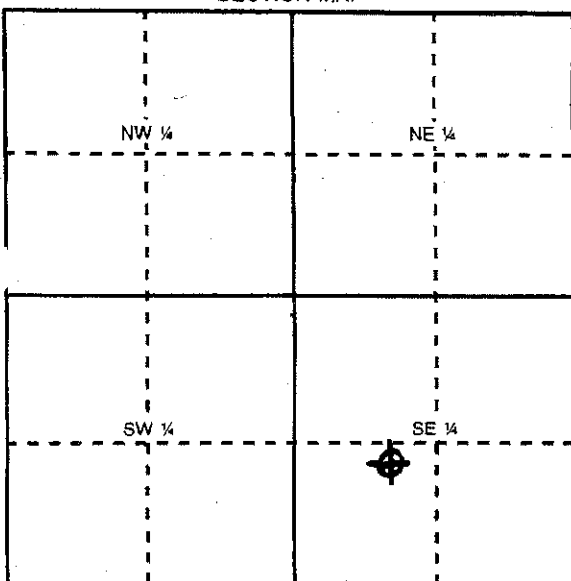
I-10

Blythe →

TOWNSHIP 6S RANGE 18E SECTION 1 ¼ SECT. SE 1/4 ¼ SECT. SW

NOTE: Please see reverse side for information which must be shown on this Plot plan in order to process this permit application.

SECTION MAP



VICINITY MAP



Table 1 - Well Construction Details
Ford By Lake

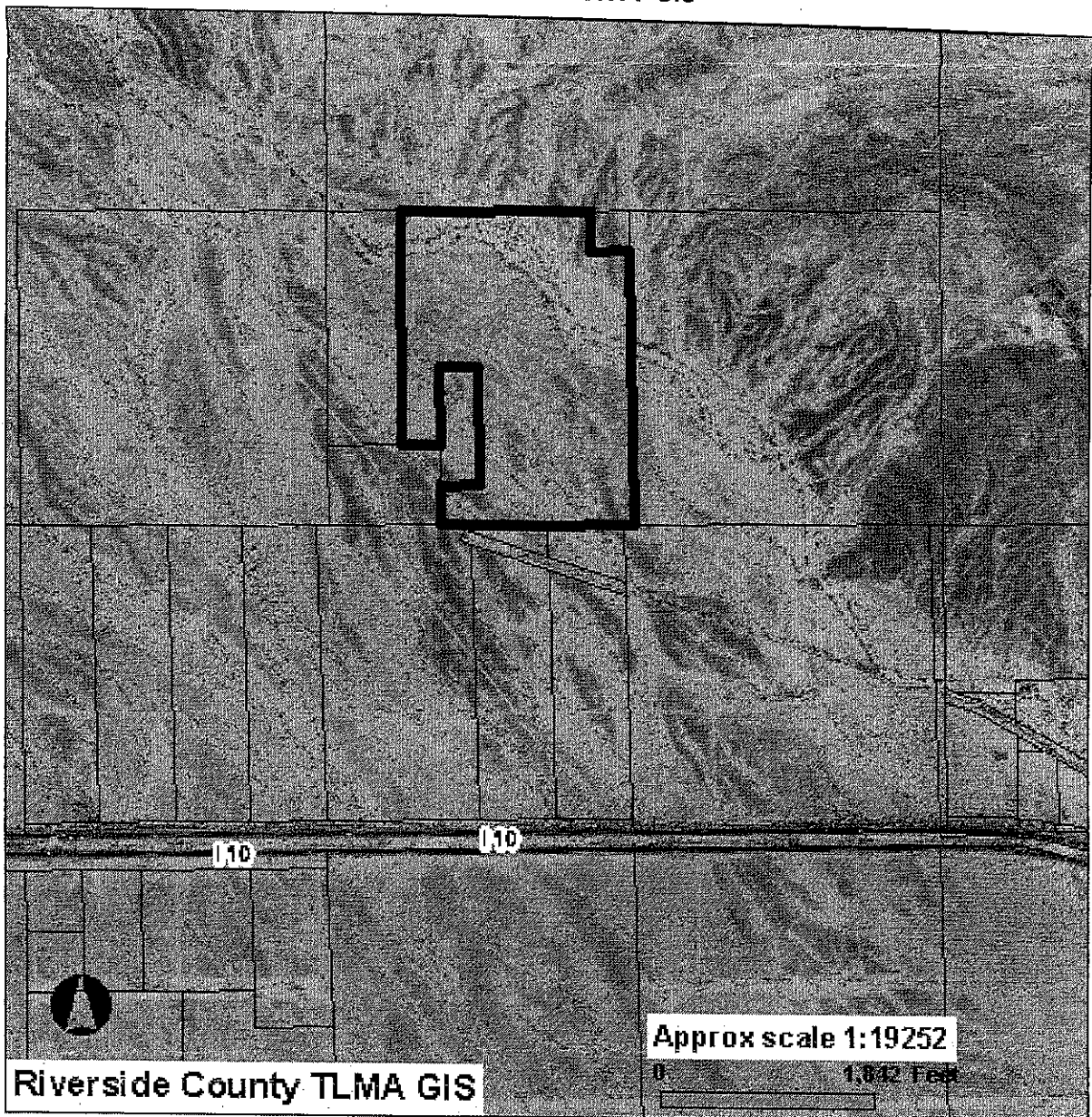
Well ID	Total Depth feet bgs	Borehole Diameter inches	Well Diameter inches	Casing/Screen Type	Well Screen			Transducer Depth feet bgs	Well Filter Pack		Annular Sealing Materials		
					Slot Size inches	Screened Interval feet bgs	Sump Interval feet bgs		Filter Pack Type	Filter Pack Interval feet bgs	Benitonic Transition Seal ² feet bgs	GROUT Seal ¹ feet bgs	Cement feet
Shallow Observation Well	145	12	5	Sch-80 PVC/Slotting	0.02	90 to 140	140 to 145	NA	# 2/16	80 to 145	75 to 80	3 to 75	0 to 3
Test Well - future industrial production well	555	10	5	Sch-40 MildSteel/Wire Wrap	0.04	350 to 550	550 to 555	NA	# 3	340 to 555	335 to 340	3 to 335	0 to 3
Buried Pressure Transducer Assembly	510	6	NA	NA	NA	NA	NA	300	# 2/16	290 to 310	285 to 290	3 to 285	0 to 3
								325		315 to 335	310 to 315	NA	
								400		380 to 410	385 to 390	335 to 385	
								500		490 to 510	485 to 490	410 to 485	
								NA		NA	NA	510 to 550	

Per conversations on well permit application re: 20' annular seal material is not correct

Notes

1. May use bentonite chips or pellets in place of grout so long as they are hydrated in place.
2. Bentonite chips or pellets may be used.
3. All annular materials must be tremie piped
4. Filter pack intervals must be surged and verified.

RIVERSIDE COUNTY GIS



Selected parcel(s):
818-200-004

LEGEND

- ☐ SELECTED PARCEL ☐ PARCELS ☐ CITY BOUNDARY

IMPORTANT

This information is made available through the Riverside County Geographic Information System. The information is for reference purposes only. It is intended to be used as base level information only and is not intended to replace any recorded documents or other public records. Contact appropriate County Department or Agency if necessary. Reference to recorded documents and public records may be necessary and is advisable.

REPORT PRINTED ON...Thu May 07 16:08:28 2009

APPLICATION FOR TRANSPORTATION AND
UTILITY SYSTEMS AND FACILITIES
ON FEDERAL LANDS

FORM APPROVED
OMB NO. 1004-0189
Expires: November 30, 2008

FOR AGENCY USE ONLY

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

Application Number

Date filed

1. Name and address of applicant (include zip code)

Boulevard Associates, LLC
700 Universe Boulevard
Juno Beach, FL 33408

2. Name, title, and address of authorized agent if different from Item 1 (include zip code)

Ms. Sunanda Behara, Project Manager

3. TELEPHONE (area code)

Applicant Meg Russell 561.304.5609

Authorized Agent
561-304-5109

4. As applicant are you? (check one)

- a. ☐ Individual
b. ☒ Corporation*
c. ☐ Partnership/Association*
d. ☐ State Government/State Agency
e. ☐ Local Government
f. ☐ Federal Agency

* If checked, complete supplemental page

5. Specify what application is for: (check one)

- a. ☐ New authorization
b. ☐ Renewing existing authorization No.
c. ☒ Amend existing authorization No.
d. ☐ Assign existing authorization No.
e. ☐ Existing use for which no authorization has been received*
f. ☐ Other*

* If checked provide details under Item 7

6. If an individual, or partnership are you a citizen(s) of the United States? ☐ Yes ☐ No

7. Project description [describe in detail]: (a) Type of system or facility, (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (Attach additional sheets, if additional space is needed.)

With this application, Boulevard is amending its request to install two well sites and seven solar and wind metering facilities (solar irradiance meters) within its two ROW Grant requested areas, listed as CACA 48880 (Ford Dry Lake site) and CACA 48728 (McCoy site), both components of its proposed Project Genesis. The amended request will reduce the number of irradiance meters to four (2 at each site). The request to install a test and observation well site at each location remains the same. Boulevard requests a temporary use permit, for up to five years. Continuation of wells, if needed, will be covered under 30-year ROW grants requested. Please see attached.

8. Attach a map covering area and show location of project proposal

9. State or local government approval: ☐ Attached ☐ Applied for ☒ Not required

10. Nonreturnable application fee. ☐ Attached ☒ Not required

11. Does project cross international boundary or affect international waterways? ☐ Yes ☒ No (If "yes," indicate on map)

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.
on file with CACA 48880 (Ford Dry Lake site) and CACA 48728 (McCoy site) applications.

13a. Describe other reasonable alternative routes and modes considered.

Please see discussion on main applications.

b. Why were these alternatives not selected?

c. Give explanation as to why it is necessary to cross Federal Lands

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. *(Specify number, date, code, or name)*
CACA 48880 (Ford Dry Lake site) and CACA 48728 (McCoy site)

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal *(construction, operation, and maintenance)*; (b) estimated cost of next best alternative; and (c) expected public benefits.

Please see discussion on main application. Test wells and solar and wind metering are necessary to determine the technical feasibility of the two sites being considered for possible solar electric energy generating plants.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

The metering and wells will have no impact on population in the area because there is no population in either area, nor would the metering or wells impact any other land use.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

Solar and wind metering will have no impact on air quality, surface and ground water quality or quantity, or any stream or body of water. The meters are silent and will not change existing noise levels. 0.05 acres of the surface of the land will be temporarily altered for up to five years for each of the proposed metering sites. Total ground disturbance for the meters is less than 0.3 acre. (See Attachment A for information on wells)

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

The proposed solar and wind metering and wells will have no impact on any population of fish, plants, or wildlife, including T&E species. There will be no impact to any marine species.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 9601 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does **not** include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

No hazardous materials will be produced, transported or stored for the solar metering and test well project.

20. Name all the Department(s)/Agency(ies) where this application is being filed.

Boulevard is filing this application with: USDI, Bureau of Land Management, South Coast/Palm Springs Field Office, 690 W. Garnet Ave. N. Palm Springs, CA 92258.

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Date

Title 18, U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS
AND FACILITIES ON FEDERAL LANDS

GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved rights-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

Department of Agriculture
Regional Forester, Forest Service (USFS)
Federal Office Building, P.O. Box 21628
Juneau, Alaska 99802-1628
Telephone: (907) 586-7847 (or a local Forest Service Office)

Department of the Interior
Bureau of Indian Affairs (BIA)
Juneau Area Office
9109 Mendenhall Mall Road, Suite 5, Federal Building Annex
Juneau, Alaska 99802
Telephone: (907) 586-7177

Bureau of Land Management (BLM)
222 West 7th Ave., Box 13
Anchorage, Alaska 99513-7599
Telephone: (907) 271-5477 (or a local BLM Office)

National Park Service (NPS)
Alaska Regional Office, 2525 Gambell St., Rm. 107
Anchorage, Alaska 99503-2892
Telephone: (907) 257-2585

U.S. Fish & Wildlife Service (FWS)
Office of the Regional Director
1011 East Tudor Road
Anchorage, Alaska 99503
Telephone: (907) 786-3440

Note-Filings with any Interior agency may be filed with any office noted above or with the: Office of the Secretary of the Interior, Regional Environmental Officer, Box 120, 1675 C Street, Anchorage, Alaska 99513.

Department of Transportation
Federal Aviation Administration
Alaska Region AAL-4, 222 West 7th Ave., Box 14
Anchorage, Alaska 99513-7587
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual departments/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS
(Items not listed are self-explanatory)

Item

- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8 Generally, the map must show the section(s), township(s), and ranges within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 9, 10, and 12 - The responsible agency will provide additional instructions.
- 13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
- 14 The responsible agency will provide instructions.
- 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- 16 through 19 - Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

If additional space is needed to complete any item, please put the information on a separate sheet of paper and identify it as "Continuation of Item".

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide additional instructions	CHECK APPROPRIATE BLOCK	
	ATTACHED	FILED*
I - PRIVATE CORPORATIONS		
a. Articles of Incorporation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications	<input type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input type="checkbox"/>	<input type="checkbox"/>
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Proof of organization	<input type="checkbox"/>	<input type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	<input type="checkbox"/>	<input type="checkbox"/>
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	<input type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by Item "I-f" and "I-g" above.	<input type="checkbox"/>	<input type="checkbox"/>

* If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

NOTICES

NOTE: This applies to the Department of the Interior/Bureau of Land Management (BLM).

The Privacy Act of 1974 provides that you be furnished with the following information in connection with the information provided by this application for an authorization.

AUTHORITY: 16 U.S.C. 310 and 5 U.S.C. 301.

PRINCIPAL PURPOSE: The primary uses of the records are to facilitate the (1) processing of claims or applications; (2) recordation of adjudicative actions; and (3) indexing of documentation in case files supporting administrative actions.

ROUTINE USES: BLM and the Department of the Interior (DOI) may disclose your information on this form: (1) to appropriate Federal agencies when concurrence or supporting information is required prior to granting or acquiring a right or interest in lands or resources; (2) to members or the public who have a need for the information that is maintained by BLM for public record; (3) to the U.S. Department of Justice, court, or other adjudicative body when DOI determines the information is necessary and relevant to litigation; (4) to appropriate Federal, State, local, or foreign agencies responsible for investigating, prosecuting violation, enforcing, or implementing this statute, regulation, or order; and (5) to a congressional office when you request the assistance of the Member of Congress in writing.

EFFECT OF NOT PROVIDING THE INFORMATION: Disclosing this information is necessary to receive or maintain a benefit. Not disclosing it may result in rejecting the application.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certifications for the use of Federal Lands.

Federal agencies use this information to evaluate your proposal.

No Federal agency may request or sponsor and you are not required to respond to a request for information which does not contain a currently valid OMB Control Number.

BURDEN HOURS STATEMENT: The public burden for this form is estimated at 25 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0189), Bureau Information Collection Clearance Officer (WO-630) 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

A reproducible copy of this form may be obtained from the Bureau of Land Management, Land and Realty Group, 1620 L Street, N.W., Rm. 1000 LS, Washington, D.C. 20036.

Project Genesis

Attachments for

Temporary Use Permit

SF-299 Application

Submitted to:

**Bureau of Land Management
California Desert District Office
Palm Springs South Coast Field Office
North Palm Springs, California**

Submitted by:

Boulevard Associates, LLC

With Assistance from:



TETRA TECH EC, INC.

August 2008

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LIST OF FIGURES

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Figure 5	Completed Solar and Wind Meter
Figure 6	Conceptual Well Construction Site Footprint During Drilling
Figure 7	Conceptual Layout of Test/Observation Well Clusters and Spray Fields
Figure 8	Typical Well Surface Completion
Figure 9	Typical Construction Mats

Attachment A

Continued Response

17. Test wells will have no significant impact on air quality, visual resources, surface or ground water, any stream or body of water, existing noise levels, or the surface of the land.

Initial well development will require discharge of approximately 40,000 gallons per site. There will be one pumping test per site which will draw up to 500,000 gallons per site and will take place over a 4 to 5 day period. Ground water sampling will occur approximately 4 times at each site over a 2 year period and will draw up to 3,000 gallons per sample. Total gallons discharged during well development, testing, and sampling is approximately 552,000 gallons per site and will not pose a significant impact to the groundwater levels.

Spray fields will be established for each site to discharge the extracted water. Each field will be approximately 2.5 acres and discharge water at a rate of 100 – 200 gallons per a minute. Fields will be positioned to best promote infiltration and evaporation and prevent runoff and ponding. Fields may be repositioned during construction if needed. After construction, 27 square feet of land will be temporarily altered for up to five years for each of the two proposed well sites. Total ground disturbance for construction and operation of wells will be 0.30 acre per site.

Attachment B

Supplemental Information

Boulevard Project Genesis

Temporary Use Permit for Solar Irradiance Meters

Project Description: Permission is requested to establish 2 irradiance meters at the proposed Ford Dry Lake site and 2 at the McCoy site, for a total of 4 meters (see Figures 1 and 2 for proposed locations at Ford Dry Lake and McCoy sites). Each meter will be installed in a fenced area to determine site-specific solar energy potential. Since a major source of damage to the mirrors of the concentrated solar trough technology is windblown gravel and sand, a 10 meter high wind mast, about the size and diameter of a single tall tent pole, will be installed 20 feet north of each of the irradiance meters. There will be a total of 4 wind masts. The total area will then be fenced in with 6 foot chain link fence. The fenced area will be approximately 40 by 50 feet. Figure 3 shows a sketch of a typical layout. Table 1 shows coordinates for the proposed meter locations.

Table 1
McCoy Site Solar Meter Locations

Potential sites	Latitude	Longitude	UTM	
			E	N
SOL-2	33.70608	-114.77020	706644	3731799
SOL-3	33.69020	-114.76861	706829	3730042

Ford Dry Lake Solar Meter Locations

Potential sites	Latitude	Longitude	UTM	
			E	N
SOL-2a	33.67360	-115.10375	675793	3727579
SOL-3a	33.67689	-115.05523	680292	3727658

Lat and Long data format decimal degree NAD83

UTM is Zone 11, NAD83

Installation will be conducted by two people using a pickup or SUV (as shown in Figure 4). Pavers are shown as foundation in this photograph, but for the installations requested, a concrete slab that is 3 feet by 3 feet by 6 inches thick will be poured. Fence posts will be set in concrete also. Therefore, either a small batch concrete mixer will be towed behind the vehicle, or the concrete will be mixed by hand on site. Water will be brought in the vehicle in a barrel. A form will be set for the concrete slab, the concrete will be poured or shoveled into the form, and then allowed to set. Fence post holes will be dug by hand with a post hole digger, then partially filled with concrete and the fence poles set into the concrete. A gate will be installed and provided with a padlock. Each site can be installed by the two-person crew in one day. See figure 5 for a photograph of a typical installed irradiance meter. Please see attached pamphlet describing the operation of the irradiance meter.

Operation: Operation of the facility will be conducted entirely by cellphone data transmission. Data will be transmitted real time from the irradiance meter over a cell phone link and posted to a web site. Therefore, site visits during the year of operation will occur only to assure system integrity or to follow up on data loss. Assuming no vandalism or system damage, visits will occur once monthly. Each site is planned for a five-year life, with the intent of replacing them with permanent facilities once the solar generating facility construction is complete.

Each facility will occupy about 2,000 square feet (.05 acre). All four facilities will total 0.20 acre. There will be no need for power, water, or other infrastructure. Each facility will be accessed by vehicle for initial installation. Each facility is accessed by an existing BLM route of travel as designated under NECO. There will be no need for vegetation clearing or road construction. A biological reconnaissance survey and a Class III survey that meets Section 106 requirements will be performed before installation.

Decommissioning: After the metering phase is completed, Boulevard will remove all the meters, concrete pads, and fencing, and restore the surface to its previous contours.

Figure 3



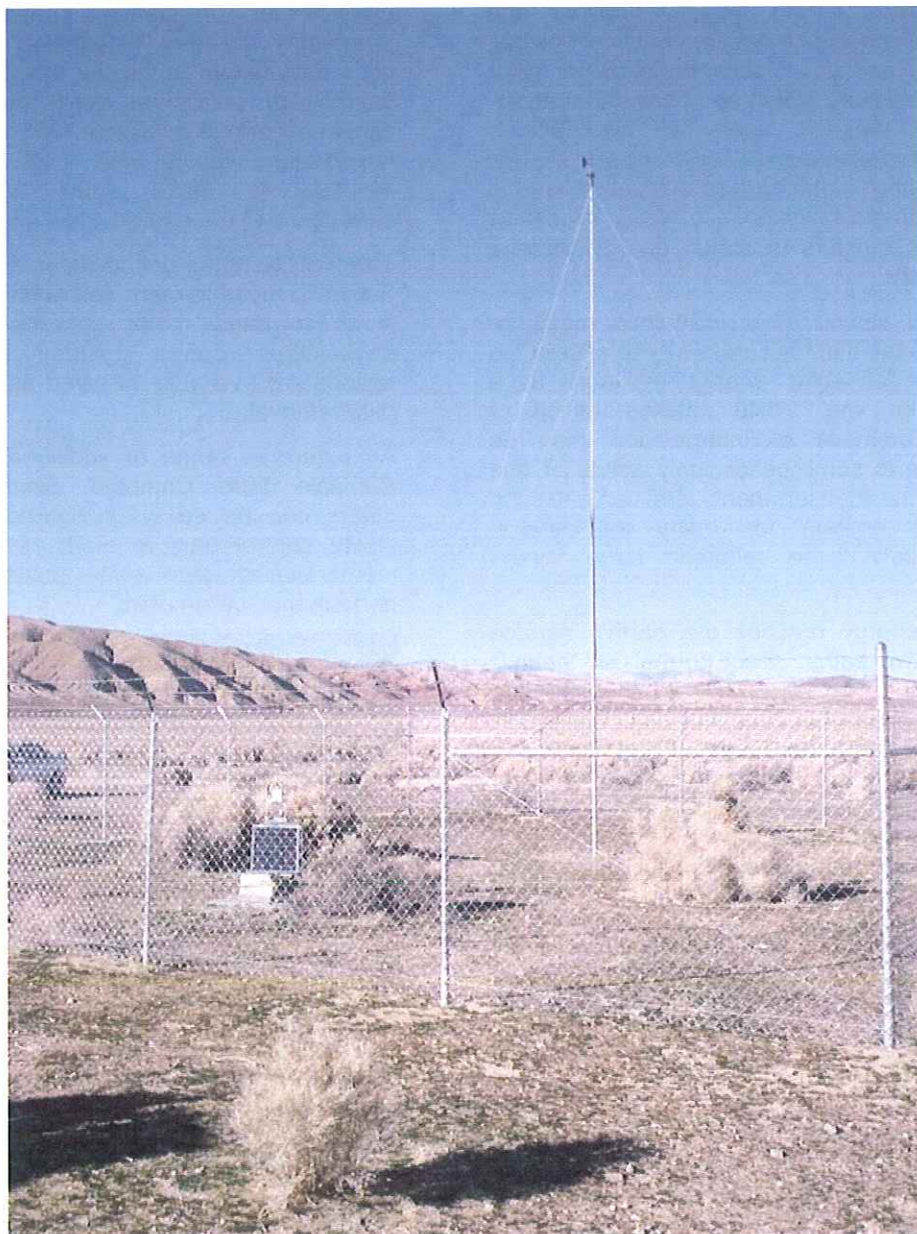
Irradiance Meter Installation

Figure 4



Completed Irradiance Meter on Site

Figure 5



Completed Solar and Wind Meter

Rotating Shadowband Radiometer

The Irradiance, Inc. Rotating Shadowband Radiometer (RSR) provides accurate and reliable on-site measurements of global, diffuse, and direct solar radiation for solar power system design and financial analysis. RSR's are also used for solar energy resource assessment, solar power system monitoring, metering and evaluation, and in atmospheric physics to quantify irradiative energy transfers in global energy balance research.

Ground station solar irradiance measurement is the most accurate way to assess the amount of solar energy available at a particular site. While satellite-derived or other methods of interpolation may be suitable in some cases, only actual on-site irradiance measurements are accurate and reliable enough for many applications, particularly those requiring large investments.

Solar energy reaches the earth's surface along two paths: direct normal (or "beam") irradiance from the "disk" of the sun and diffuse irradiance from the sky. While it is relatively easy to measure the combined total of these two "components", accurate measurement of direct and diffuse irradiance individually has historically been quite expensive and problematic until the advent of the Irradiance, Inc. RSR.

The necessity for accurate measurement of direct normal irradiance, in particular is of critical importance for large-scale sun-tracking and concentrating solar technologies

The Irradiance RSR2 is an improved, second-generation instrument based on the Ascension Technology instrument produced in the 1990s and operated at over 150 locations in the U.S., Brazil, Mexico, Pakistan, Bahrain, Morocco, Spain, Greece, Russia, Costa Rica, South Africa and India. This rugged, integrated system is easy to install and operate, and in most cases requires little routine maintenance.

The RSR-2 sensor head unit includes a moving shadowband that momentarily casts

a shadow over a silicon photodiode pyranometer. Irradiance's patented and proprietary pattern recognition algorithm uses data taken during the passage of the shadow to determine direct normal and diffuse horizontal irradiance. An ambient air temperature sensor with a gill shield is included to make small temperature corrections to the photodiode signal.

The RSR2 control unit includes a Campbell Scientific measurement and control system, a shadowband motor controller, and a photovoltaic power system; numerous options are available for wired and wireless data retrieval.

An extensive range of additional sensors, available from Campbell Scientific and others can be easily configured with the RSR2 control unit, to measure additional meteorological and solar power system performance parameters.



Figure 1 *Irradiance* RSR-2 head unit and solar resource measurement system.

Irradiance

www.irradiance.com

Figure 1 shows the RSR2 system head unit's pyranometer sensor, shadowband and motor housing mounted on top of the measurement and control system housing. In this configuration the instrument can be easily mounted on the ground or flat roof with an optional ballast tray. It can also be mounted to any vertical 1.65" (41.9 mm) outside diameter pipe rigidly supported in any manner. A optional tripod mount is under development.

SPECIFICATIONS

The RSR2 design incorporates significant improvements in accuracy and mechanical reliability stemming from collaborative research conducted at the U.S. National Renewable Energy Laboratory (NREL), Sandia National Laboratory, the University of Oregon Solar Monitoring Lab, and the 150MW KJC Solar Electric Generating Station in California. The results of this study at each of four test installations were that the RSR-2 measurements were within 2% of reference measurement systems.

Rotating Shadowband Radiometer Head Unit: Licor LI-200SZ pyranometer, shadowband, drive mechanism, wiring harness and mounting bracket.

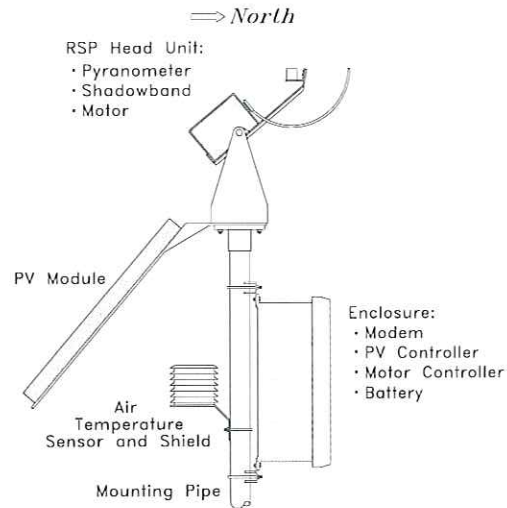
Ambient Air: Air temperature sensor rated - 5C to + 50C, gill radiation shield, wiring and mounting. Optional temperature and relative humidity sensor. Optional barometer.

Photovoltaic solar power supply: 10-Watt photovoltaic module, wiring harness and mounting bracket. Optional additional 10-Watt panel for low sunlight locations.

Instrument enclosure: Fiberglass enclosure 30.48 cm (12") wide x 35.56 cm (14") high x 15.24 cm (6") deep, mounting hardware, CR800 (Optional CR1000) Campbell Scientific Measurement and Control System, and head unit motor controller.

Irradiance RSR2 software: Software license for Campbell CRBasic code to control the RSR and determine global, diffuse and direct irradiance and ambient air temperature.

Mounting hardware: Pipe with flanges for bolting to flat surfaces; optional ballast tray and hardware for mounting an RSR on a flat roof. Optional tripod for ground mounting.



MEASUREMENT SERVICES

Irradiance and its partners offer RSR2 installation, operation and maintenance and data retrieval and reporting services related to solar energy resource assessment and solar power system performance analysis. Contact us to discuss specific requirements.

PRICE

The Base Price of RSR2 with a CR800 Measurement and control systems is \$8,750, FOB Massachusetts, USA. Contact us for pricing and availability of sensor and communication options.

CONTACT

The RSR2 is marketed and serviced by Irradiance in collaboration with Augustyn + Company and New Energy Options, Inc.

Irradiance

Edward C. Kern, Jr., PhD
41 Laurel Drive, Lincoln, MA 01773 USA
www.irradiance.com

Augustyn & Company

Jim Augustyn, P.E.
609 Santa Rosa Ave. Berkeley, CA 94707
www.dqms.com

NEW ENERGY OPTIONS, INC.

James Bing, P.E.
410 Great Road (B-6), Littleton, MA 01460
www.newenergyoptions.com

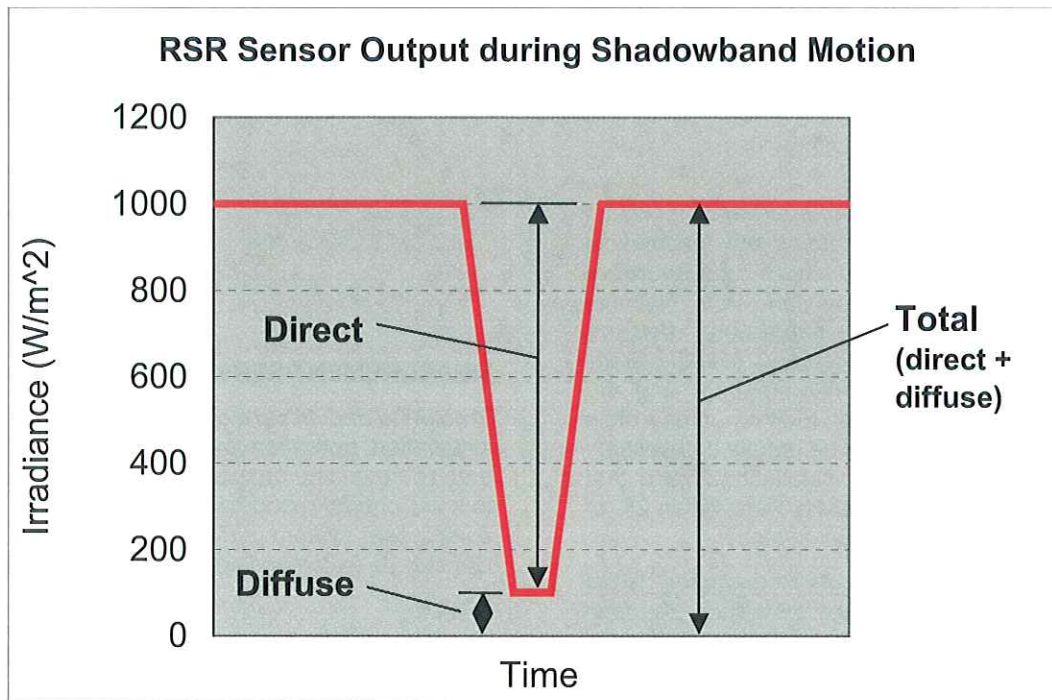
Irradiance

www.irradiance.com

All prices subject to change; revised February 1, 2008

Rotating Shadowband Radiometer

FUNDAMENTALS OF OPERATION



The Irradiance RSR2 uses a single light sensor (pyranometer) to measure the total and diffuse irradiance, allowing accurate derivation of the direct irradiance. These terms are related by:

$$\text{Total} = \text{Direct} \times \cos(\text{zenith angle}) + \text{Diffuse}$$

Where:

- Total is the total irradiance falling on a horizontal surface.
- Direct is the direct beam or direct normal irradiance coming from the disk of the sun.
- Diffuse is the irradiance from the entire sky falling on a horizontal surface excluding irradiance coming from the disk of the sun.
- Zenith Angle is measured from straight overhead down an arc to a point at the center of the sun

The graph illustrates measurements during a single shadowband rotation on a clear day. Once per minute the shadowband moves over the sensor, taking about one second for this motion. During this period the sensor signal is sampled about 1000 times. The lowest readings in the middle of the graph occur when the sensor is completely shaded from the sun by the shadowband; here the instrument reads only the diffuse irradiance. The stream of high-sample-rate data is processed to determine the drop in the signal as the shadow passes over, which is equal to the direct irradiance times the cosine of the zenith angle. The zenith angle is derived from an independent calculation using the instrument's latitude, longitude and time. The total irradiance is measured only when there is no shading.

National Renewable Energy Laboratory studies have shown the RSR2 instrument to report values within 2% of reference instruments with comparison trials at four reference stations.

Irradiance

www.irradiance.com

All prices subject to change; revised February 1, 2008

Attachment C

Supplemental Information

Boulevard Project Genesis

Temporary Use Permit for Test Well Installation and Pump Testing

Project Description: Permission is requested to install one well site (each site includes one test well and two observation wells) at Ford Dry Lake and one at McCoy (Figures 1 and 2)). A permit to install the wells will be obtained from the Riverside County Department of Health Services. The wells will be used to conduct pumping tests and periodic water quality sampling. Logging of the wells during installation and results of pumping tests will provide data for production well design and information about the aquifer characteristics needed for evaluation of the potential impacts of production well operation. Sampling of the wells will provide water quality data used for design of the solar power plant cooling system and plant water and wastewater treatment systems. The actual depths of the wells will be determined based on a review of available hydrogeologic literature for the area. The final well locations within the areas designated on Figures 1 and 2 will be determined based upon our literature review and a site reconnaissance. Table 2 shows the coordinates of the proposed locations of the well sites.

Table 2
Test and Observation Well Site Locations

Site	Latitude	Longitude	UTM	
			E	N
McCoy	33.71114	-114.77102	706555	3732359
FDL	33.67358	- 115.05440	680369	3727662

Lat and Long data format decimal degree NAD83

UTM is Zone 11, NAD83

Each test well is expected to be constructed using 5-inch diameter casing and screen while observation wells are expected to be constructed using 4-inch diameter casing and screen. Observation wells will be located at distances of approximately 20 and 60 feet from each test well. Surface completions will be in steel, "stove pipe" risers centered on concrete pads that measure approximately 3 by 3 feet. A photo of a typical surface completion is included as Attachment 1. Hazardous materials (e.g., temporary fuel) and wastes (e.g., drill cuttings) will be handled pursuant to a project-specific management and spill prevention plan.

Well Installation: Each test and observation well cluster will be installed using the mud rotary method in an area measuring approximately 80 by 140 feet immediately adjacent to an existing dirt road. Figure 6 shows a sketch of a typical well construction site layout during the drilling process. Alternative drilling methods (e.g., air rotary or dual tube percussion) may be used if drilling conditions warrant. Such alternative methods are expected to have similar workspace needs and impacts as mud rotary drilling. The configuration of the equipment in the work area will be shifted to allow the drilling of each well. Figure 6 also shows the locations of the test and observation wells relative to each other and the existing dirt access roads.

The well construction sites will be temporarily fenced using an approximately 3-foot high, fabric silt fence and steel fence posts to act as a temporary wildlife exclusion barrier during construction activities. There will be no need for power, water, or other infrastructure during construction. Each well site will be accessed using vehicles and portable equipment for well installation. Each well site is accessed by an existing BLM route of travel as designated under NECO. There will be no need

for vegetation clearing or road construction. Sandy areas along the access roads may be wetted down using a water truck to facilitate vehicle passage, if needed. In addition, a four-wheel drive tractor may be used to help pull vehicles through sandy areas along the roads, if needed. A biological reconnaissance survey and a Class III survey that meets Section 106 requirements will be preformed before installation. The following are the coordinates for the proposed well locations.

Well construction will be conducted by a crew of approximately three drillers and two geologists using a drilling rig with an extendable mast approximately 30 to 40 feet high, a stem/pipe truck to carry drilling rods, a linear-motion mud cleaner to remove drill cuttings from the drilling fluids, a forklift and hopper to shuttle equipment, materials and drilling mud, and roll-off bins to temporarily store recovered drilling mud. In addition, the drilling site will include a logging and equipment table, a shaded rest area, and portable restroom facilities. Drilling crew and geologist's trucks will be temporarily parked at the site each day that work is conducted. Equipment with a high potential to disturb surface soils (e.g., roll-off bins) will be deployed on plywood sheets. Special mats designed for protection of sensitive areas during construction traffic or plywood will be laid down along the travel path of the drill rig and pipe truck. A photo of these mats in use is included as Attachment 2.

After completion of drilling, at least two of the borings will be geophysically logged (spontaneous potential, short and long lateral resistivity, gamma and caliper) by lowering a sonde through the mud and recording the readings using a data logger. Drilling mud will then be removed from the boring and the casing string and screen assembled and lowered into the borehole using the hoist on the drilling rig. After the casing and screen are set, the well screen annulus will be filled with a sand filterpack material and the remainder of the annulus will be sealed using bentonite or grout. A portable cement mixer may be used to mix grout at the site. The final well screen and sand filterpack design will be determined based on interpretation of the geophysical log. Drilling mud and/or soil cuttings will be removed from the site for disposal at an appropriately permitted facility. Up to five roll-off bins will be deployed at a drilling site at any one time for temporary storage of drilling mud and/or soil cuttings, and removed using a transfer truck when full.

Well Development. Following installation, each well will be developed by bailing, jetting, air lift pumping, conventional pumping and/or surging until residual drilling mud is removed and the removed water becomes relatively clear and free of sediment. During this phase of construction, the drill rig, stem/pipe truck, mud cleaner and roll-off bins will be demobilized, and a pump/development truck and 20,000-gallon roll-off "frac tank" or several smaller storage tanks will be mobilized to the site to temporarily store development water. The tank will be placed on plywood sheets or mats to reduce disturbance of surface soils. Samples of the development water and clean groundwater produced after development will be analyzed to determine the water quality for discharge, and a Notice of Intent will be filed with the California Regional Water Quality Control Board, Colorado River Region (RWQCB) to discharge the water under the *Statewide General Waste Discharge Requirements (WDRs) for Discharges to Land with a Low Threat to Water Quality*. A copy will be provided to the BLM and the CEC.

Following approval by the RWQCB, the water will be discharged to a spray field using sprinklers and gasoline-powered pumps. The spray field will be established by placing portable irrigation pipe along the dirt access road to the well locations, with sprinklers placed along the pipe at intervals starting at least 2,000 feet from the well locations to reduce the influence of infiltrating water on the pumping test drawdown data. The spray fields will be sized to avoid surface runoff to ephemeral streams and lake beds, and maximize infiltration and evaporation of the water. The conceptual location of the spray field relative to the observation and test wells is shown on Figure 7. We estimate that 80 sprinklers will be used to distribute the water over an area of approximately 2.5 acres along the dirt road at a

rate of approximately 100 to 200 gallons per minute. The volume of well development water that will be discharged is estimated to be up to 10,000 gallons from each observation well location and up to 20,000 gallons for each test well location. The exact location of the spray field may be moved within the areas identified in Figures 1 and 2 during the discharge process to best promote infiltration and evaporation of the water and prevent runoff or ponding.

Pumping Tests. During the pumping test phase of the work all well installation equipment will be demobilized from the areas surrounding the observation wells will be removed. Data-logging pressure transducers will be temporarily lowered into the observation wells to continuously record water levels. The temporary exclusion fences around the test wells will remain in place and a pump/development truck will be used to install an electric submersible pump in the test well. The pump will be operated using a gasoline, diesel, or propane-powered generator. Water will be discharged to a temporary storage tank(s) and pumped to the spray field for disposal under permit from the RWQCB as with the well development water (described above). We estimate that 500,000 gallons of water will require discharge over a 4-5 day period to a spray field 2.5 acres in size at rates of 100 to 200 gallons per minute. The exact location of the spray field may be moved within the areas identified in Figures 1 and 2 during the discharge process to best promote infiltration and evaporation of the water and prevent runoff or ponding.

Water levels and discharge will be recorded during an estimated 8-hour step drawdown test and a two- to three-day constant discharge pumping period and an equal recovery period. Allowing for setup, demobilization and a one day break between the step drawdown and constant discharge tests, the duration of the pumping tests could be up to 10 days. Following completion of the pumping test, the temporary exclusion fence and all equipment will be demobilized from the test and observation well sites.

The results of the pumping test will be used to estimate aquifer parameters. Together with information from the logging and installation of the observation and test wells, we anticipate that the estimated aquifer parameters will be considered in the design of production wells for the project.

In addition, the results of the pump testing and well installation program and a review of available hydrogeologic literature will be used to develop an analytical or numerical computer model to simulate the drawdown and water quality impacts of using groundwater to supply the power plant per the requirements of the California Energy Commission (CEC): "If the project will pump groundwater, an estimation of aquifer drawdown based on a computer modeling study shall be conducted by a professional geologist and include the estimated drawdown on neighboring wells within 0.5 mile of the proposed well(s), any effects on the migration of groundwater contaminants, and the likelihood of any changes in existing physical or chemical conditions of groundwater resources shall be provided (Appendix B (g) (14) (E) (ii))."

The scope of the computer modeling analysis (and type of model developed) will depend on the needs of the project, results of the pumping test, and extent of information available regarding the hydrogeology of the basins in which the sites are located.

Construction Schedule. The anticipated schedule for well construction, development, pump testing and demobilization of construction equipment from the well sites is estimated to be 11 weeks as summarized in Table 1.

Table 3
Estimated Duration of Program For One Site

Activity	Unit	Duration	Number	Total Duration (weeks)
Test Well Installation	Weeks	2	1	2
Observation Well Installation	Weeks	2	2	4
Well Development	Weeks	0.5	3	1.5
Pump Testing	Weeks	1.5	1	1.5
Waste Disposal/Demobilization	Weeks	2	1	2
Total Duration (Weeks)				11

Groundwater Sampling. Groundwater samples will be collected from the test and/or observation wells approximately four times over a period of two years to assess the quality of the groundwater for plant use and to design the plant cooling, water treatment and wastewater treatment systems. The samples will be collected using compressed gas actuated pumps powered with a portable generator/compressor, the samples will be placed in laboratory-supplied containers, and shipped to a certified laboratory for water quality analysis. Groundwater purged from the wells will be discharged under permit from the RWQCB. Up to 3,000 gallons of water will be pumped into a water truck and discharged along the dirt road near the well site and dispersed in such a way as to prevent runoff to surface water or ponding.

Operation. Once installed, each well site will be limited to approximately a 3 foot by 3 foot concrete pad with a steel stove pipe stickup. There will be no need for power, water, or other infrastructure. Each well site will be accessed by an existing BLM route of travel as designated under NECO. There will be no need for vegetation clearing or road construction. The wells will be visited periodically to collect groundwater samples as described above and could be used subsequently for monitoring of groundwater levels or for limited groundwater production.

Decommissioning: If the wells are not needed for groundwater production or monitoring purposes, they will be decommissioned and filled after the groundwater monitoring and project engineering design phase. Decommissioning will be performed under permit from and in accordance with County of Riverside Health Department requirements. The well concrete pads and stickups will be removed to a depth of approximately 5 feet below grade and the ground surface will be restored to its previous contours.

FIGURE 6
Conceptual Well Construction Site Footprint During Drilling

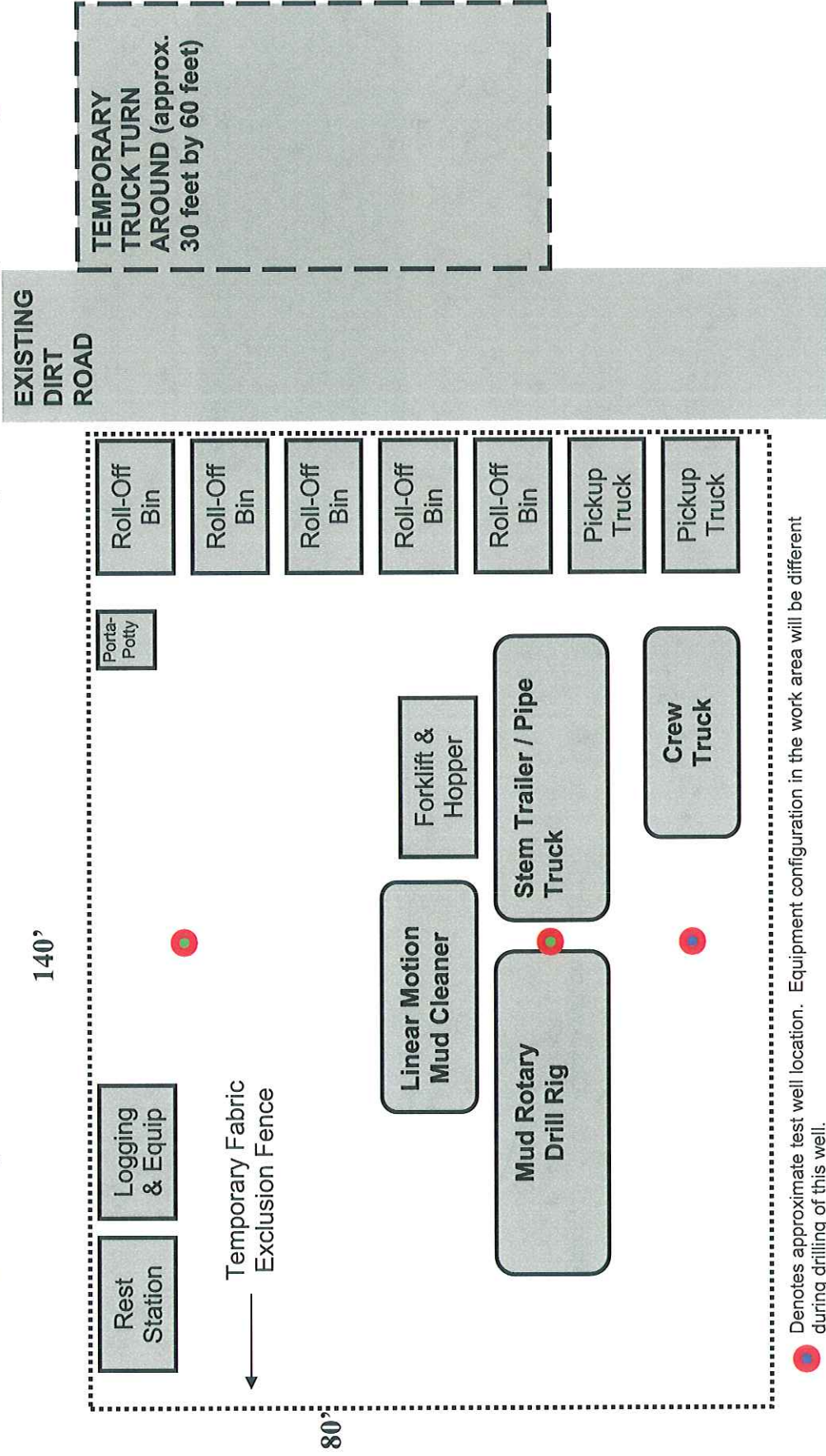


FIGURE 7
Conceptual Layout of Test/Observation Well Clusters and
Spray Fields

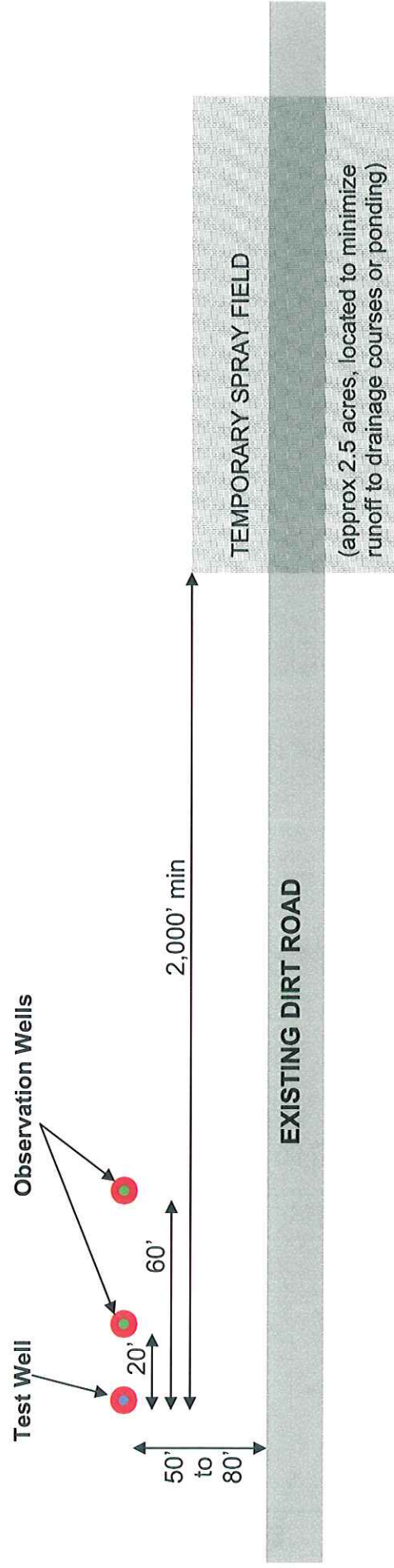


FIGURE 8
Typical Well Surface Completion

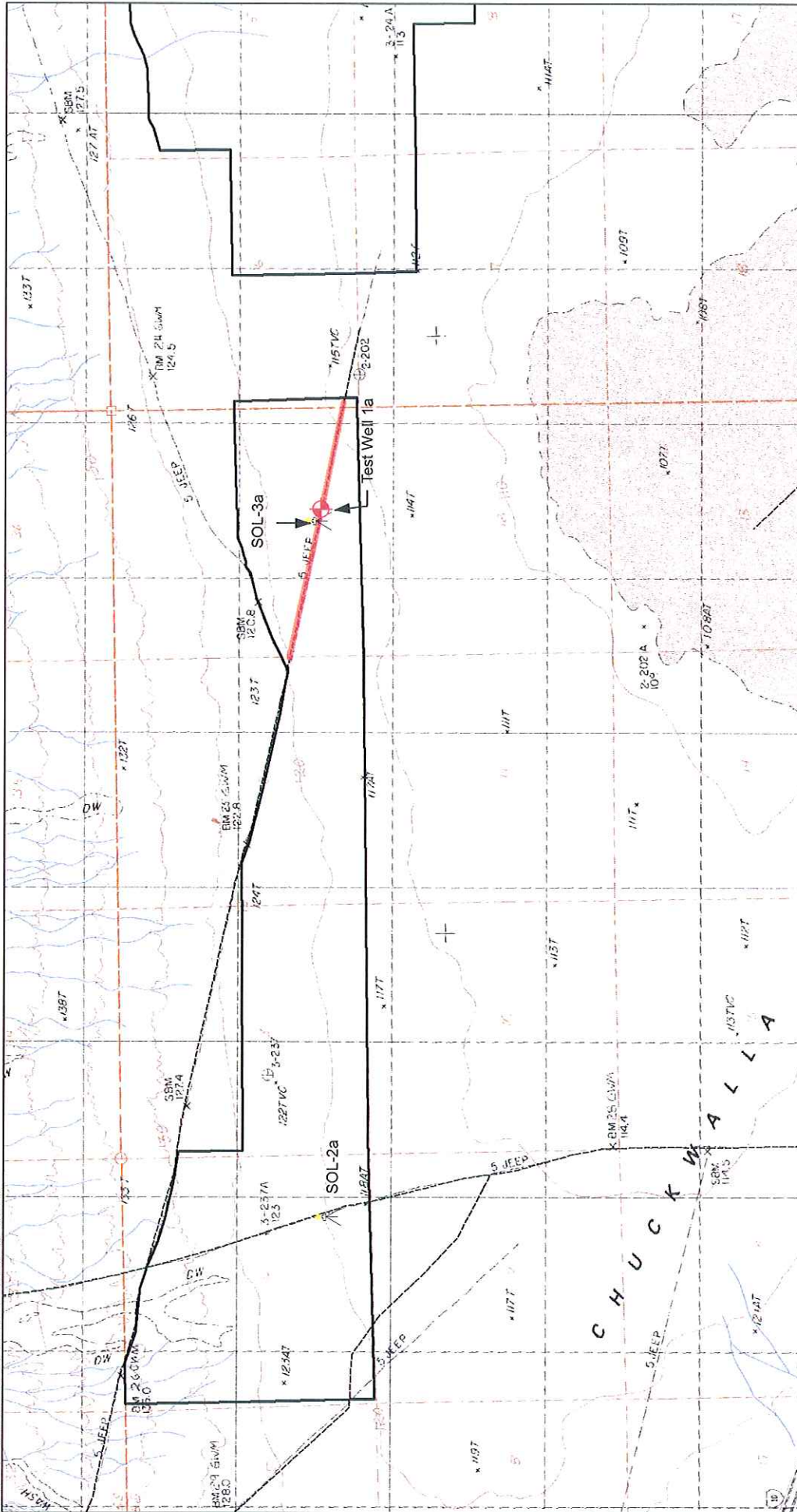


FIGURE 9
Typical Construction Mats



Attachment D

Ford Dry Lake site Solar Meter and Test Well Proposed Location Map Figure 1



Project Genesis

Figure 1.
Ford Dry Lake Site
Solar Irradiance Meter and
Test/Observation Well Locations

0 250 500 1,000 1,500 2,000 Meters

Attachment E

McCoy Site Solar Meter and Test Well Proposed Location Map Figure 2

Figure 2.
McCoy Solar Irradiance Meter and
Test / Observation Well Locations

Form 2920-1
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAND USE APPLICATION AND PERMIT
(Sec. 302(b) of P.L. 94-579, October 21, 1976, 43 U.S.C. 1732)

FORM APPROVED
OMB NO. 1004-0009
Expires: December 31, 2007

FOR BUREAU OF LAND MANAGEMENT (BLM) USE ONLY

Application Number

CACA-50437

1. Name (first, middle initial, and last) Boulevard Associates, LLC	Address (include zip code) ATTN: Sunanda Behara 700 Universe Blvd, Juno Beach, FL 33408	Phone (include area code) 561-304-5109
2. Attach map or sketch showing public lands for which you are applying		
3. Proposed date(s) of use: from 10/30/2008 to 10/30/2011		
4. Give legal basis for holding interest in lands in the State of <u>CA</u> (Check appropriate box at right and explain.) Please refer to case number CACA-48880 (Ford Dry Lake)	<input type="checkbox"/> Resident <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Local Government <input type="checkbox"/> Other <input type="checkbox"/> Partnership <input type="checkbox"/> County <input type="checkbox"/> State Government	
5. Are the lands now improved, occupied or used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "yes," describe improvements and purposes, identify users and occupants.) See attached information from application for Temporary Use Permit.		
6. Do you need access to the land? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Describe needed or existing access) See attached information from application for Temporary Use Permit.		
7a. What do you propose to use the lands for? Solar meter and groundwater test well installation and monitoring. See attached application for additional information.		
b. What improvements and/or land development do you propose? (To complete application processing, engineering and construction drawings may be required) Temporary installation of solar meters and groundwater well(s). See attached information from application for Temporary Use Permit.		
c. What is the estimated capital cost? \$ \$400,000 - \$600,000	d. What is the source of water for the proposed use? See attached information from application for Temporary Use Permit	

I CERTIFY That the information given by me in this application is true, complete, and correct to the best of my knowledge and belief and is given in good faith.

Sunanda Behara

(Signature of Applicant)

October 29, 2008

(Date)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

PERMIT

Permission is hereby granted to Boulevard Assoc. / Genesis Project
of 700 Universe Blvd. Juno Beach, FL 33408
to use the following described lands:

Permit Number CACA-50437

TOWNSHIP	RANGE	SECTION	SUBDIVISION
T 6S, R18 E. Sec 10	SESE	well & meter #4	
	4	SESE meter #1	
Meridian SBBM	State California	County Riverside	Acres (number) 2

for the purpose of Solar meter testing and groundwater test drilling

and subject to the following conditions:

1. This permit is issued for the period specified below. It is revocable at the discretion of the BLM, at any time upon notice. This permit is subject to valid adverse claims heretofore or hereafter acquired.
2. This permit is subject to all applicable provisions of the regulations (43 CFR 2920) which are made a part hereof.
3. This permit may not be assigned without prior approval of the BLM.
4. Permittee must not enclose roads or trails commonly in public use.
5. Authorized representatives of the Department of the Interior, other Federal agencies, and State and local law officials will at all times have the right to enter the premises on official business.
6. Permittee must pay the United States for any damage to its property resulting from the use.
7. Permittee must notify the BLM of address change immediately.
8. Permittee must observe all Federal, State, and local laws and regulations applicable to the premises and to erection or maintenance of signs or advertising displays including the regulations for the protection of game birds and game animals, and must keep the premises in a neat, orderly, and sanitary condition.
9. Permittee must pay the BLM, in advance, the lump sum of \$9,000.00 for the period of use authorized by this permit or \$3,000.00 annually, as rental or such other sum as may be required if a rental adjustment is made.
10. Use or occupancy of land under this permit will commence within months from date hereof and must be exercised at least days each year.
11. Permittee must take all reasonable precautions to prevent and suppress forest, brush, and grass fires and prevent pollution of waters on or in the vicinity of the lands.
12. Permittee must not cut any timber on the lands or remove other resources from the land without prior written permission from the BLM. Such permission may be conditioned by a requirement to pay fair market value for the timber or other resources.
13. Permittee agrees to have the serial number of this permit marked or painted on each advertising display or other facility erected or maintained under the authority of such permit.
14. This permit is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the Equal Opportunity clauses. A copy of this order may be obtained from the BLM.
15. Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.
16. Special conditions (attach additional sheets, if necessary)

Permit issued for period

From 11-1-08

To 11-1-11

Sevanda Behara
Holly L. Roberts
Assoc. Field Manager 11/6/08
(Title) (Date)

INSTRUCTIONS

1. Submit, in duplicate, to any local office of the Bureau of Land Management having jurisdiction of the lands.
2. Applications for Land Use Permits will not be accepted unless a notification of the availability of the land for non-BLM use (Notice of Realty Action) has been published in the Federal Register and for 3 weeks thereafter in a newspaper of general circulation. This provision does not apply in those situations where the publication of a (Notice of Realty Action) has been waived by the BLM.
3. If the annual rental exceeds \$250 dollars per year, costs of processing the application must be paid by the applicant in advance.
4. The BLM may require additional information to process an application. Processing will be deferred until the required information is furnished by the applicant.

(Continued on page 3)

(Form 2920-1, Page 2)

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PALM SPRINGS-SOUTH COAST FIELD OFFICE**

**FINDING OF NO SIGNIFICANT IMPACT
CA-660-09-08**

NAME of PROJECT: Temporary Use Permit, Project Genesis Solar Irradiation
Meters and Test Wells

FINDING OF NO SIGNIFICANT IMPACT: Environmental impacts associated with the proposed action have been assessed. Based on the analysis provided in the attached EA, I conclude the approved action is not a major federal action and will result in no significant impacts to the environment under the criteria in Title 40 Code of Federal Regulations 1508.18 and 1508.27. Preparation of an Environmental Impact Statement to further analyze possible impacts is not required pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969.

All cultural sites will be avoided as per the Environmental Assessment for the project.



Field Manager
Palm Springs-South Coast Field Office
USDI Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

3/31/09
Date

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PALM SPRINGS-SOUTH COAST FIELD OFFICE**

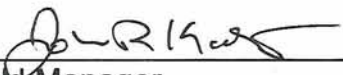
**DECISION RECORD
CA-660-09-08**

NAME of PROJECT: Temporary Use Permit, Project Genesis Solar Irradiation Meters and Test Wells

REGULATORY COMPLIANCE: The approved action is in conformance with the California Desert Conservation Area Plan (1980) as Amended, including the Northern and Eastern Colorado Desert Coordinated Management Plan (2002). Under the analysis of this EA, no significant impacts to the human environment were identified and no Environmental Impact Statement is required.

Compliance with the mitigation measures identified in the EA is hereby required. These measures are incorporated into this decision record as stipulations by reference. A copy of this Decision Record and attendant conditions of approval (stipulations) shall be in the possession of the on-site operator during all undertakings approved herein.

DECISION: It is my decision to approve the proposed action as described in Environmental Assessment (EA) number CA-660-09-08.



Field Manager
Palm Springs-South Coast Field Office
USDI Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

3/31/09
Date

APPEALS: This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations at Title 43 of the Code of Federal Regulations (CFR), Part 4, and the information provided in Form 1842-1 (enclosed). If an appeal is taken, your notice of appeal must be filed in the Palm Springs-South Coast Field Office, Bureau of Land Management, U.S. Department of the Interior, 1201 Bird Center Drive, Palm Springs, California 92262, within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, pursuant to Title 43 of the Code of Federal Regulations, Part 4, Subpart E, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- (1) the relative harm to the parties if the stay is granted or denied,
- (2) the likelihood of the appellant's success on the merits,
- (3) the likelihood of immediate and irreparable harm if the stay is not granted, and
- (4) whether the public interest favors granting the stay.



APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

**A. Facility:****I. FACILITY INFORMATION**

Name: Project Genesis			
Address: Ford Dry Lake Road (See attached map)			
City: Blythe	County: Riverside	State: CA	Zip Code: 92225
Contact Person: Michele Scott		Telephone Number: 916-370-8685	

B. Facility Owner:

Name: Boulevard Associates, LLC			Owner Type (Check One)	
Address: 700 University Avenue			1. <input type="checkbox"/> Individual 2. <input type="checkbox"/> Corporation	
City: Juno Beach	State: FL	Zip Code: 33408	3. <input type="checkbox"/> Governmental Agency 4. <input type="checkbox"/> Partnership	
Contact Person: Meg Russell			5. <input checked="" type="checkbox"/> Other: <u>LLC</u>	
		Telephone Number: 561-304-5609	Federal Tax ID:	

C. Facility Operator (The agency or business, not the person):

Name: WorleyParsons			Operator Type (Check One)	
Address: 2330 East Bidwell Street, Suite 150			1. <input type="checkbox"/> Individual 2. <input checked="" type="checkbox"/> Corporation	
City: Folsom	State: CA	Zip Code: 95630	3. <input type="checkbox"/> Governmental Agency 4. <input type="checkbox"/> Partnership	
Contact Person: Michele Scott			5. <input type="checkbox"/> Other: _____	
		Telephone Number: 916-370-8685		

D. Owner of the Land:

Name: Bureau of Land Management			Owner Type (Check One)	
Address: 600 West Garnet Avenue			1. <input type="checkbox"/> Individual 2. <input type="checkbox"/> Corporation	
City: North Palm Springs	State: CA	Zip Code: 92258	3. <input checked="" type="checkbox"/> Governmental Agency 4. <input type="checkbox"/> Partnership	
Contact Person: Allison Schaefer			5. <input type="checkbox"/> Other: _____	
		Telephone Number: 760-833-7104		

E. Address Where Legal Notice May Be Served:

Address: Boulevard Associates, LLC, C/O WorleyParsons, 2330 East Bidwell Street, Suite 150			
City: Folsom	State: CA	Zip Code: 95630	
Contact Person: Michele Scott		Telephone Number: 916-370-8685	

F. Billing Address:

Address: WorleyParsons, 2330 East Bidwell Street, Suite 150			
City: Folsom	State: CA	Zip Code: 95630	
Contact Person: Michele Scott		Telephone Number: 916-370-8685	

CALIFORNIA ENVIRONMENTAL
PROTECTION AGENCYState of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT



II. TYPE OF DISCHARGE

Check Type of Discharge(s) Described in this Application (A or B):

☒ A. WASTE DISCHARGE TO LAND☐ B. WASTE DISCHARGE TO SURFACE WATER

Check all that apply:

☐ Domestic/Municipal Wastewater
Treatment and Disposal☐ Cooling Water☐ Mining☐ Waste Pile☐ Wastewater Reclamation☒ Other, please describe: Well drilling program development water☐ Animal Waste Solids☐ Land Treatment Unit☐ Dredge Material Disposal☐ Surface Impoundment☐ Industrial Process Wastewater☐ Animal or Aquacultural Wastewater☐ Biosolids/Residual☐ Hazardous Waste (see instructions)☐ Landfill (see instructions)☐ Storm Water

III. LOCATION OF THE FACILITY

Describe the physical location of the facility.

1. Assessor's Parcel Number(s)

Facility: 818-200-004

Discharge Point: 818-200-004

2. Latitude

Facility: 33.67360

Discharge Point: 33.67360

3. Longitude

Facility: -115.10375

Discharge Point: -115.10375

IV. REASON FOR FILING

☒ New Discharge or Facility☐ Changes in Ownership/Operator (see instructions)☐ Change in Design or Operation☐ Waste Discharge Requirements Update or NPDES Permit Reissuance☐ Change in Quantity/Type of Discharge☐ Other: _____

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Name of Lead Agency: County of Riverside, Department of Environmental Health

Has a public agency determined that the proposed project is exempt from CEQA?

☒ Yes☐ No

If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.

Basis for Exemption/Agency: Well drilling program permits are ministerial and do not require environmental review.

Has a "Notice of Determination" been filed under CEQA?

☐ Yes☒ No

If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.

Expected CEQA Documents:

☐ EIR☐ Negative Declaration

Expected CEQA Completion Date: _____

CALIFORNIA ENVIRONMENTAL
PROTECTION AGENCYState of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT



VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

- Finding of No Significant Impact, March 31, 2009, BLM issued
- Decision Record, March 31, 2009, BLM issued; - Riverside Co. letter, April 30, 2009
- Land Use Application and Permit, November 6, 2008, BLM issued

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name: Michele Scott

Title: Senior Compliance Manager

Signature: Michele J. Scott

Date: 5/11/2009

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger:	Fee Amount Received:	Check #:
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VI. Discharge Characterization

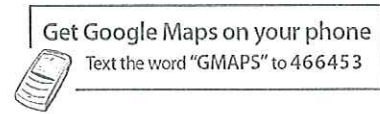
Test wells have no significant impact on air quality, visual resources, surface or ground water, any stream or body of water, existing noise levels or the surface of the land.

Following well installation, each well will be developed until the removed water becomes relatively clear and free of sediment. In addition, a 7 day pumping test will be conducted. During this phase of construction, a truck and water tank or similar storage facilities will be mobilized to the site to temporarily store development water. Samples of the development water and clear groundwater produced after development will be analyzed to determine water quality for discharge to ensure compliance with the waste discharge requirements.

A sprayfield will be established to discharge the extracted development water. Each field will be approximately 2.5 acres and discharge water at a rate of 100 to 200 gallons per minute. Fields will be positioned to best promote infiltration and evaporation and prevent runoff and ponding. Fields may be repositioned during construction if needed to achieve this.

Following sampling, the water will be discharged from the tanks to the sprayfield using sprinklers, a water cannon or similar equipment and a gas-powered pump. The spray field will be established by placing portable irrigation pipe along the dirt access road to the well location. The spray equipment will be sized and pumped at a maximum volume to avoid surface runoff to ephemeral streams and lake beds and maximize infiltration and evaporation of the water. It is estimated that the sprayfield equipment will distribute the water over an area of approximately 2.5 acres along the dirt road at a rate of approximately 100 to 200 gallons per minute. The volume of well development water that will be discharged is estimated to be up to 1,000,000 gallons total.

Discharge quantities will be recorded during the 7 to 8 day constant discharge pumping period.



Genesis Drill Program

732 views - Unlisted

Created on Apr 29 - Updated Apr 30

By Michele - 5 Collaborators

[Rate this map](#) - [Write a comment](#)



[Blythe, CA](#)

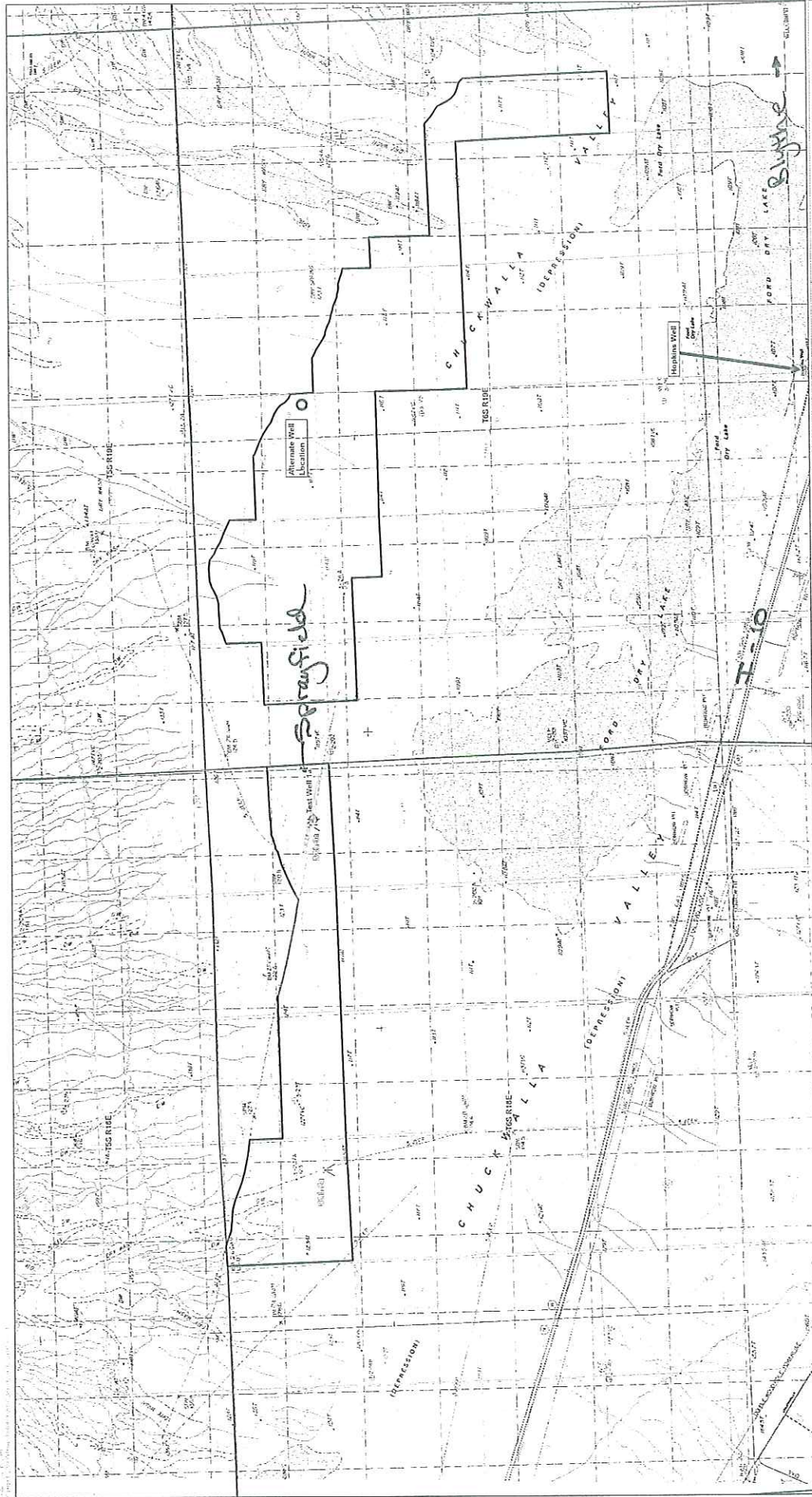


[Days Inn Hotels: Blythe](#)

[Days Inn Hotels: Blythe](#)

[18 reviews](#)

9274 East Hobson Way



Project Boundary

Township

Section

0

0.5

1

2

3

Miles

Tt

FPL Energy
TECHNICAL B/L

FIG 1: Ford Dry Lake
Project ROW

USGS 1:24K Quadrangles: Aztec Mines, Sildwinder Well, Ford Dry Lake, McCoy Springs, Hopkins Well, East of Aztec Mines

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PALM SPRINGS-SOUTH COAST FIELD OFFICE**

**FINDING OF NO SIGNIFICANT IMPACT
CA-660-09-08**

NAME of PROJECT: Temporary Use Permit, Project Genesis Solar Irradiation
Meters and Test Wells

FINDING OF NO SIGNIFICANT IMPACT: Environmental impacts associated with the proposed action have been assessed. Based on the analysis provided in the attached EA, I conclude the approved action is not a major federal action and will result in no significant impacts to the environment under the criteria in Title 40 Code of Federal Regulations 1508.18 and 1508.27. Preparation of an Environmental Impact Statement to further analyze possible impacts is not required pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969.

All cultural sites will be avoided as per the Environmental Assessment for the project.



Field Manager
Palm Springs-South Coast Field Office
USDI Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

3/31/09
Date

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PALM SPRINGS-SOUTH COAST FIELD OFFICE

DECISION RECORD
CA-660-09-08

NAME of PROJECT: Temporary Use Permit, Project Genesis Solar Irradiation
Meters and Test Wells

REGULATORY COMPLIANCE: The approved action is in conformance with the California Desert Conservation Area Plan (1980) as Amended, including the Northern and Eastern Colorado Desert Coordinated Management Plan (2002). Under the analysis of this EA, no significant impacts to the human environment were identified and no Environmental Impact Statement is required.

Compliance with the mitigation measures identified in the EA is hereby required. These measures are incorporated into this decision record as stipulations by reference. A copy of this Decision Record and attendant conditions of approval (stipulations) shall be in the possession of the on-site operator during all undertakings approved herein.

DECISION: It is my decision to approve the proposed action as described in Environmental Assessment (EA) number CA-660-09-08.



Field Manager
Palm Springs-South Coast Field Office
USDI Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

3/31/08
Date

APPEALS: This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations at Title 43 of the Code of Federal Regulations (CFR), Part 4, and the information provided in Form 1842-1 (enclosed). If an appeal is taken, your notice of appeal must be filed in the Palm Springs-South Coast Field Office, Bureau of Land Management, U.S. Department of the Interior, 1201 Bird Center Drive, Palm Springs, California 92262, within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, pursuant to Title 43 of the Code of Federal Regulations, Part 4, Subpart E, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- (1) the relative harm to the parties if the stay is granted or denied,
- (2) the likelihood of the appellant's success on the merits,
- (3) the likelihood of immediate and irreparable harm if the stay is not granted, and
- (4) whether the public interest favors granting the stay.

Form 2920-1
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAND USE APPLICATION AND PERMIT
(Sec. 302(b) of P.L. 94-579, October 21, 1976, 43 U.S.C. 1732)

FORM APPROVED
OMB NO. 1004-0009
Expires: December 31, 2007

FOR BUREAU OF LAND MANAGEMENT (BLM) USE ONLY

Application Number

CACA-50437

1. Name (first, middle initial, and last) Boulevard Associates, LLC	Address (include zip code) ATTN: Sunanda Behara 700 Universe Blvd, Juno Beach, FL 33408	Phone (include area code) 561-304-5109
2. Attach map or sketch showing public lands for which you are applying		
3. Proposed date(s) of use: from 10/30/2008 to 10/30/2011		
4. Give legal basis for holding interest in lands in the State of CA (Check appropriate box at right and explain.) Please refer to case number CACA-48880 (Ford Dry Lake)		
<input type="checkbox"/> Resident <input type="checkbox"/> Partnership <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> County <input type="checkbox"/> Local Government <input type="checkbox"/> State Government <input type="checkbox"/> Other		
5. Are the lands now improved, occupied or used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If "yes," describe improvements and purposes, identify users and occupants.) See attached information from application for Temporary Use Permit.		
6. Do you need access to the land? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Describe needed or existing access) See attached information from application for Temporary Use Permit.		
7a. What do you propose to use the lands for? Solar meter and groundwater test well installation and monitoring. See attached application for additional information.		
b. What improvements and/or land development do you propose? (To complete application processing, engineering and construction drawings may be required) Temporary installation of solar meters and groundwater well(s). See attached information from application for Temporary Use Permit.		
c. What is the estimated capital cost? \$ \$400,000 - \$600,000	d. What is the source of water for the proposed use? See attached information from application for Temporary Use Permit	

I CERTIFY That the information given by me in this application is true, complete, and correct to the best of my knowledge and belief and is given in good faith.

Sunanda Behara

(Signature of Applicant)

October 29, 2008

(Date)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

PERMIT

Permission is hereby granted to Boulevard Assoc. / Genesis Project
of 700 Universe Blvd. Juno Beach, FL 33408
to use the following described lands:

Permit Number CACA-50437

TOWNSHIP	RANGE	SECTION	SUBDIVISION
T 6S, R18 E. Sec 10	SESE	well & meter #4	
	4	SESE meter #1	
Meridian	SBBM	State	California
		County	Riverside
		Acres (number)	2

for the purpose of
Solar meter testing and groundwater test drilling

and subject to the following conditions:

1. This permit is issued for the period specified below. It is revocable at the discretion of the BLM, at any time upon notice. This permit is subject to valid adverse claims heretofore or hereafter acquired.
2. This permit is subject to all applicable provisions of the regulations (43 CFR 2920) which are made a part hereof.
3. This permit may not be assigned without prior approval of the BLM.
4. Permittee must not enclose roads or trails commonly in public use.
5. Authorized representatives of the Department of the Interior, other Federal agencies, and State and local law officials will at all times have the right to enter the premises on official business.
6. Permittee must pay the United States for any damage to its property resulting from the use.
7. Permittee must notify the BLM of address change immediately.
8. Permittee must observe all Federal, State, and local laws and regulations applicable to the premises and to erection or maintenance of signs or advertising displays including the regulations for the protection of game birds and game animals, and must keep the premises in a neat, orderly, and sanitary condition.
9. Permittee must pay the BLM, in advance, the lump sum

of \$ ~~9,000.00~~ ^{3,000.00} for the period of use authorized by this permit or \$ 3,000.00, annually, as rental or such other sum as may be required if a rental adjustment is made.

10. Use or occupancy of land under this permit will commence within months from date hereof and must be exercised at least days each year.
11. Permittee must take all reasonable precautions to prevent and suppress forest, brush, and grass fires and prevent pollution of waters on or in the vicinity of the lands.
12. Permittee must not cut any timber on the lands or remove other resources from the land without prior written permission from the BLM. Such permission may be conditioned by a requirement to pay fair market value for the timber or other resources.
13. Permittee agrees to have the serial number of this permit marked or painted on each advertising display or other facility erected or maintained under the authority of such permit.
14. This permit is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the Equal Opportunity clauses. A copy of this order may be obtained from the BLM.
15. Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.
16. Special conditions (attach additional sheets, if necessary)

Permit issued for period

From 11-1-08

To 11-1-11

Sevanda Bebara
(Permittee)
Rally S. Roberts
Assoc. Field Manager 11/6/08
(Title) (Date)

INSTRUCTIONS

1. Submit, in duplicate, to any local office of the Bureau of Land Management having jurisdiction of the lands.
2. Applications for Land Use Permits will not be accepted unless a notification of the availability of the land for non-BLM use (Notice of Realty Action) has been published in the Federal Register and for 3 weeks thereafter in a newspaper of general circulation. This provision does not apply in those situations where the publication of

a (Notice of Realty Action) has been waived by the BLM.

3. If the annual rental exceeds \$250 dollars per year, costs of processing the application must be paid by the applicant in advance.
4. The BLM may require additional information to process an application. Processing will be deferred until the required information is furnished by the applicant.

(Continued on page 3)

(Form 2920-1, Page 2)

Scott, Michele (Sacramento)

From: Mark Abbott [MABBOTT@co.riverside.ca.us]
Sent: Thursday, April 30, 2009 9:36 AM
To: Scott, Michele (Sacramento)
Subject: RE: Genesis Well Drilling Program - WDR Permit

Hi Michelle,

Riverside County Environmental Health does not review CEQA documents in association with well drilling permits. Well drilling permits are ministerial as long as the drilling is not in an adjudicated basin.

CEQA may be required but Environmental Health does not require CEQA review in association with a well drilling permit.

I hope this helps.

Mark Abbott, REHS IV
Department of Environmental Health
Environmental Resources Management
38686 El Cerrito Rd.
Palm Desert, CA. 92211
Phone (760) 393-3390
Fax (760) 863-7013



Linda S. Adams
Secretary for
Environmental Protection

California Regional Water Quality Control Board Colorado River Basin Region

73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
(760) 346-7491 • Fax (760) 341-6820
<http://www.waterboards.ca.gov/coloradriver>



Arnold Schwarzenegger
Governor

July 1, 2009

Dean Gosselin, V.P. Development
Boulevard Associates, LLC
700 Universe Boulevard
Juno Beach, FL 33408

Dear Mr. Gosselin:

**SUBJECT: NOTICE OF APPLICABILITY FOR STATEWIDE GENERAL WASTE
DISCHARGE REQUIREMENTS FOR DISCHARGES TO LAND WITH A
LOW THREAT TO WATER QUALITY: BOARD ORDER NO. 2003-0003-
DWQ**

Regional Water Board staff has reviewed your Notice of Intent (NOI) requesting enrollment under State Board General Waste Discharge Requirements Order No. 2003-0003-DWQ for discharges from test well drilling and development. The project, referenced as Project Genesis, is located along Ford Dry Lake Road, in an unincorporated area of Riverside County in the Ford Dry Lake area, Assessor's Parcel Number 818-200-004.

The Regional Water Board finds that your project qualifies for enrollment under the subject Order. This letter constitutes your Notice of Applicability.

Should you have questions regarding this matter, please call Jose Cortez at (760) 776-8963.

Sincerely,

Robert Perdue
Executive Officer
Colorado River Basin
Regional Water Quality Control Board

JC/tab

cc: Michele Scott, WorleyParsons
Allison Schaefer, US BLM

File: WDID 7B 33 2025 001, Project Genesis, Board Order 03-03-DWQ

California Environmental Protection Agency

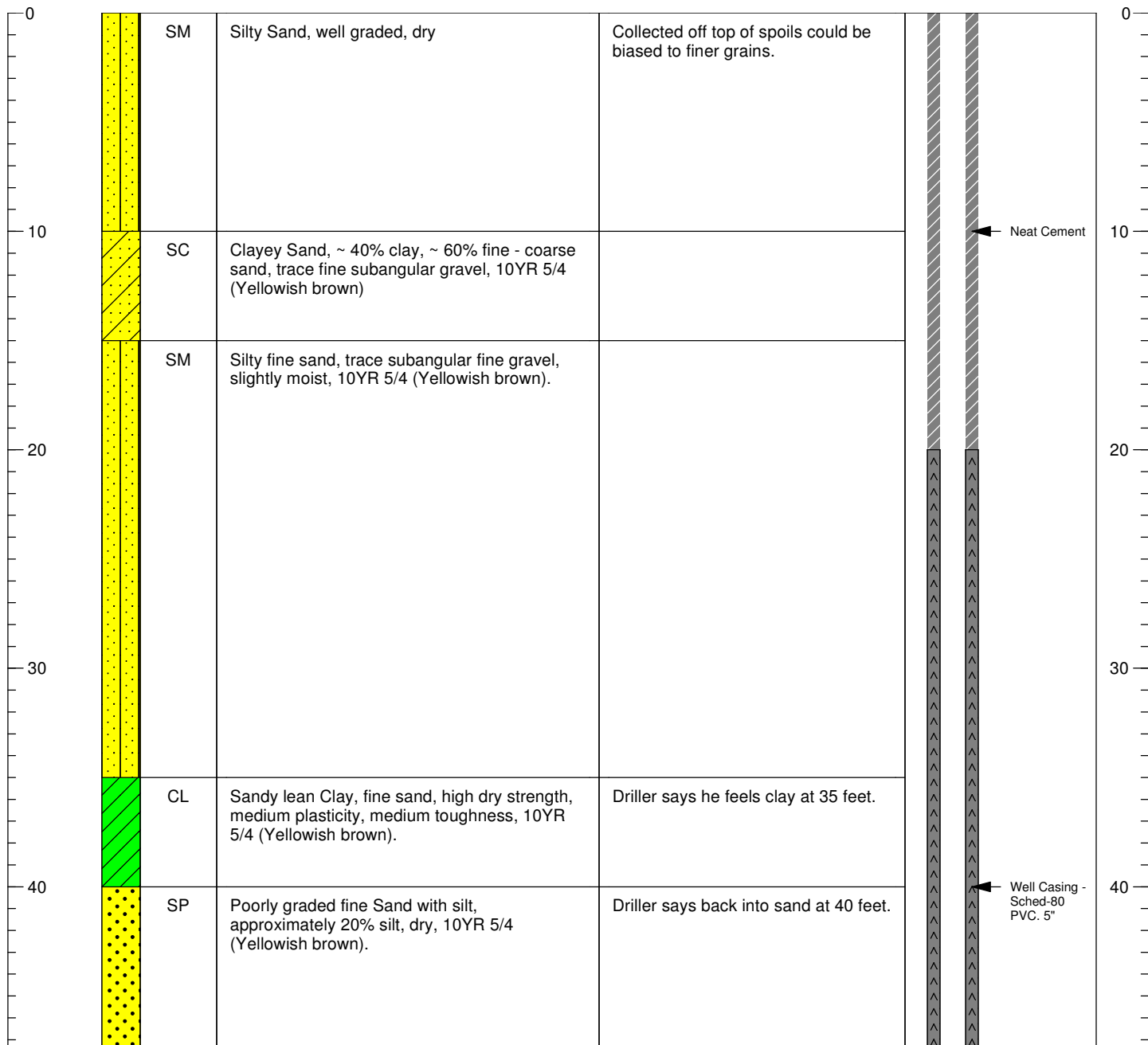
ATTACHMENT 2: BORING LOGS AND WELL COMPLETION DETAILS

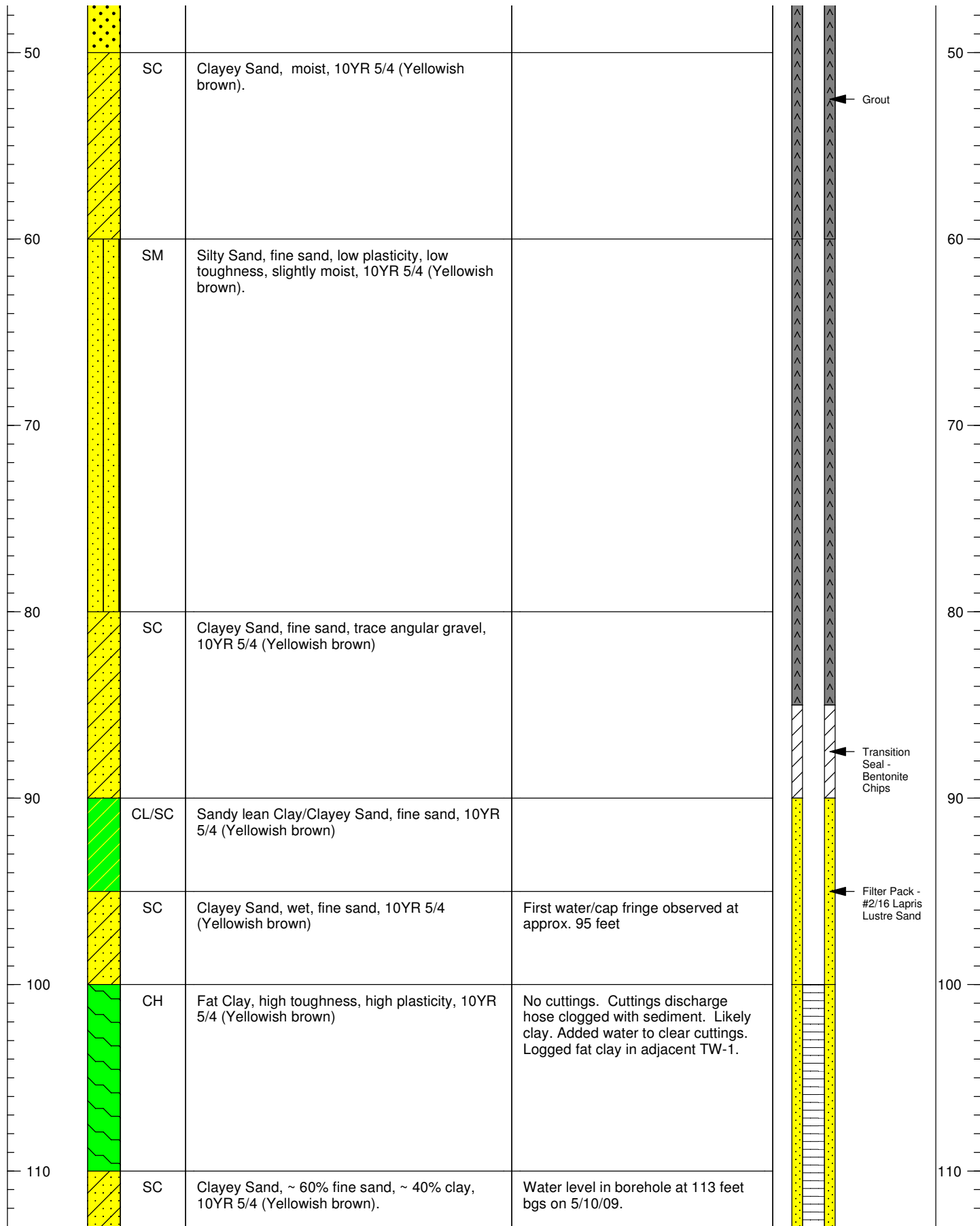


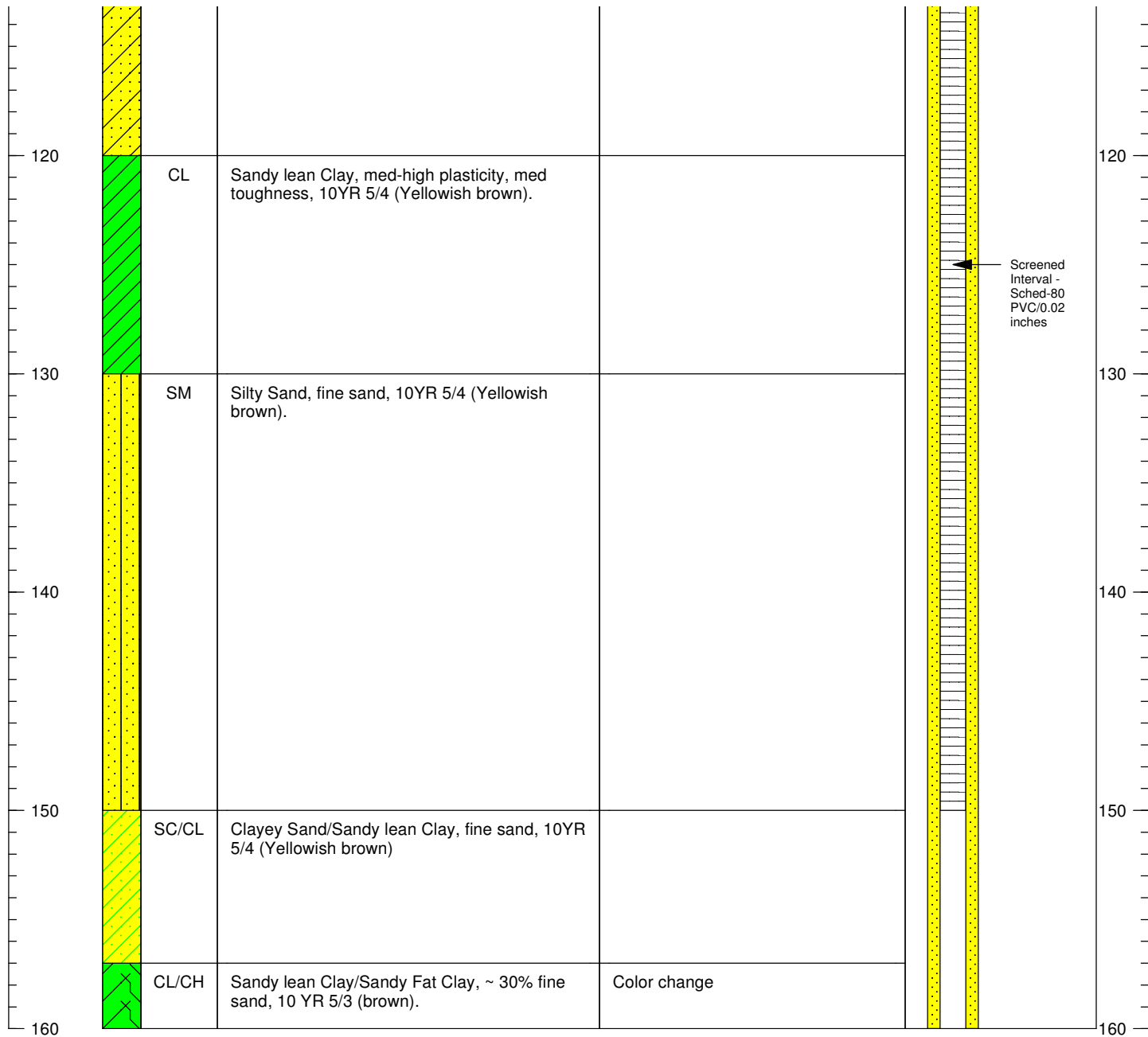
Date Drilled: 05/08/2009 to 05/09/2009		Borehole Location: N33°40' 24.91" W115°03'5.85"	
Drilling Method: Air Rotary, 10" Diameter		Ground Surface Elevation: 383 feet amsl	
Drilling Contractor: WDC Exploration		Static Water Level: 76.77 feet amsl	
Geologist: Ryan Farrel	Reviewer: Nat Beal	Total Depth: 160 ft	Well Depth:
Notes:			

Depth - Feet

Graphic Log	USCS Soil Type	Geologic Description	Remarks	Well Schematic
-------------	----------------	----------------------	---------	----------------







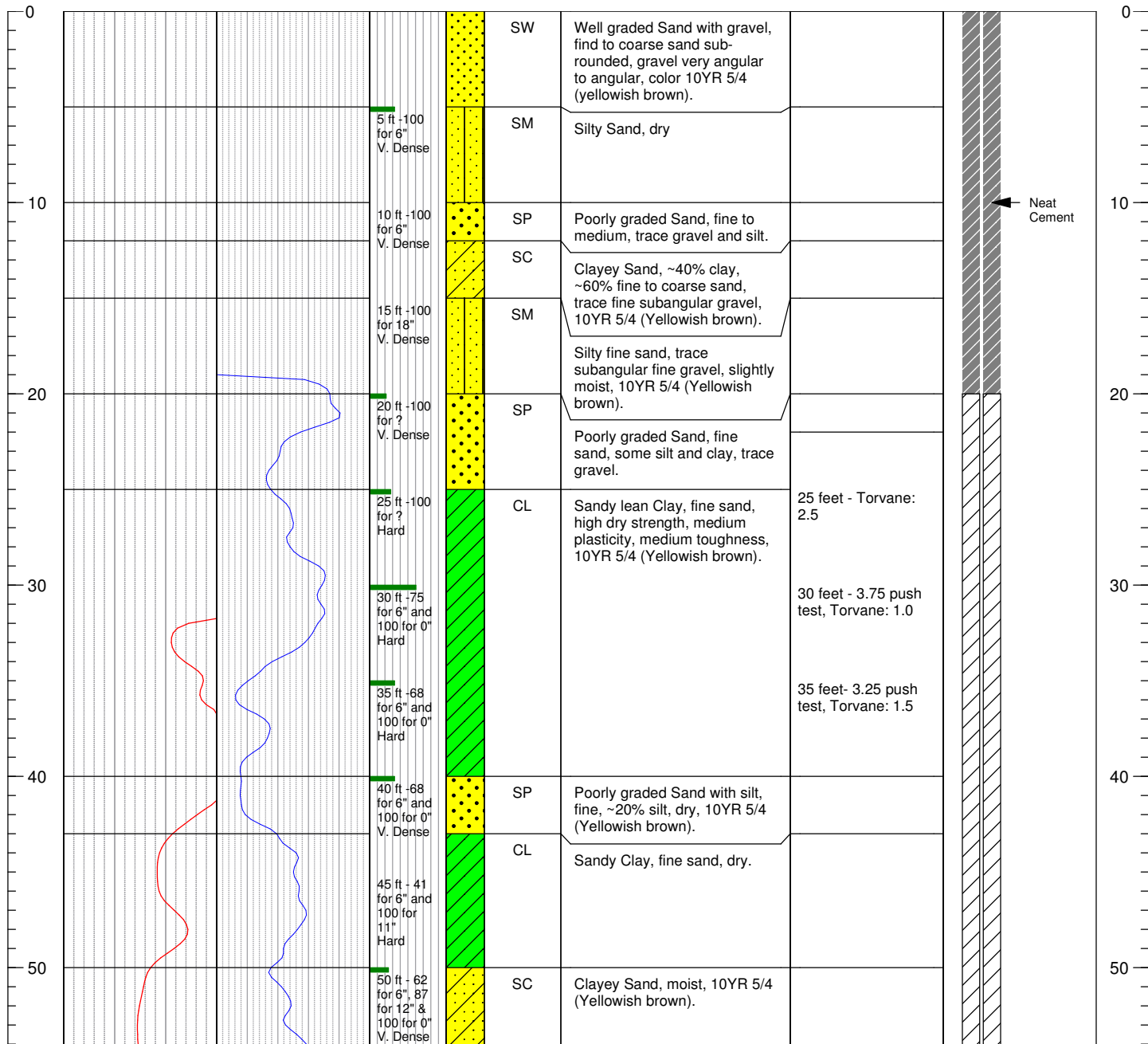


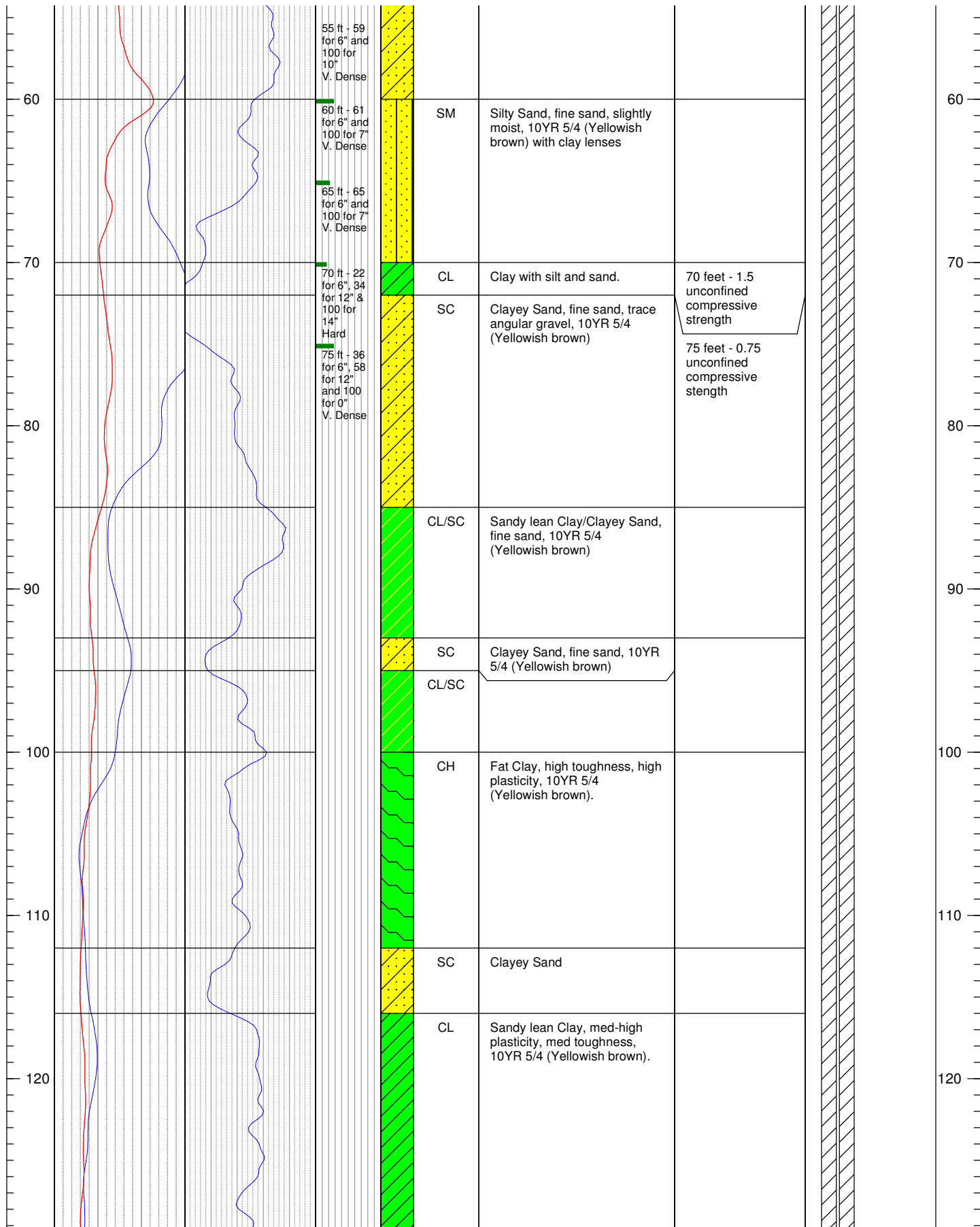
Date Drilled: 05/28/2009 to 07/02/2009		Borehole Location: N33°40.419' W115°03.268	
Drilling Method: Mud Rotary, 10" Diameter		Ground Surface Elevation: 383 feet amsl	
Drilling Contractor: WDC Exploration		Static Water Level: N/A	
Geologist: Andie Gehlhausen	Reviewer: Nat Beal	Total Depth: 900 ft	Well Depth: 405 ft

Notes:

- 1) The upper 160 ft was adjusted based on the cuttings log from OBS-1 and the geophysical logs
- 2) From 160 ft to 550 ft the log was adjusted based on the cuttings logs and geophysical logs for this well and TW-1.
- 3) From 550 ft to 900 ft the log was adjusted based on the borehole geophysical logs for this well.
- 4) RSN and RLS have been corrected to 77 degrees F

Depth - Feet	GEOPHYSICAL LOGS		Blows (6")	Recovery %	Graphic Log	USCS Soil Type	Geologic Description	Remarks	Well Schematic
	RLN (OHM-M)	Gamma							
0	15	40 (GAPI)	140	0					
0	15			100					

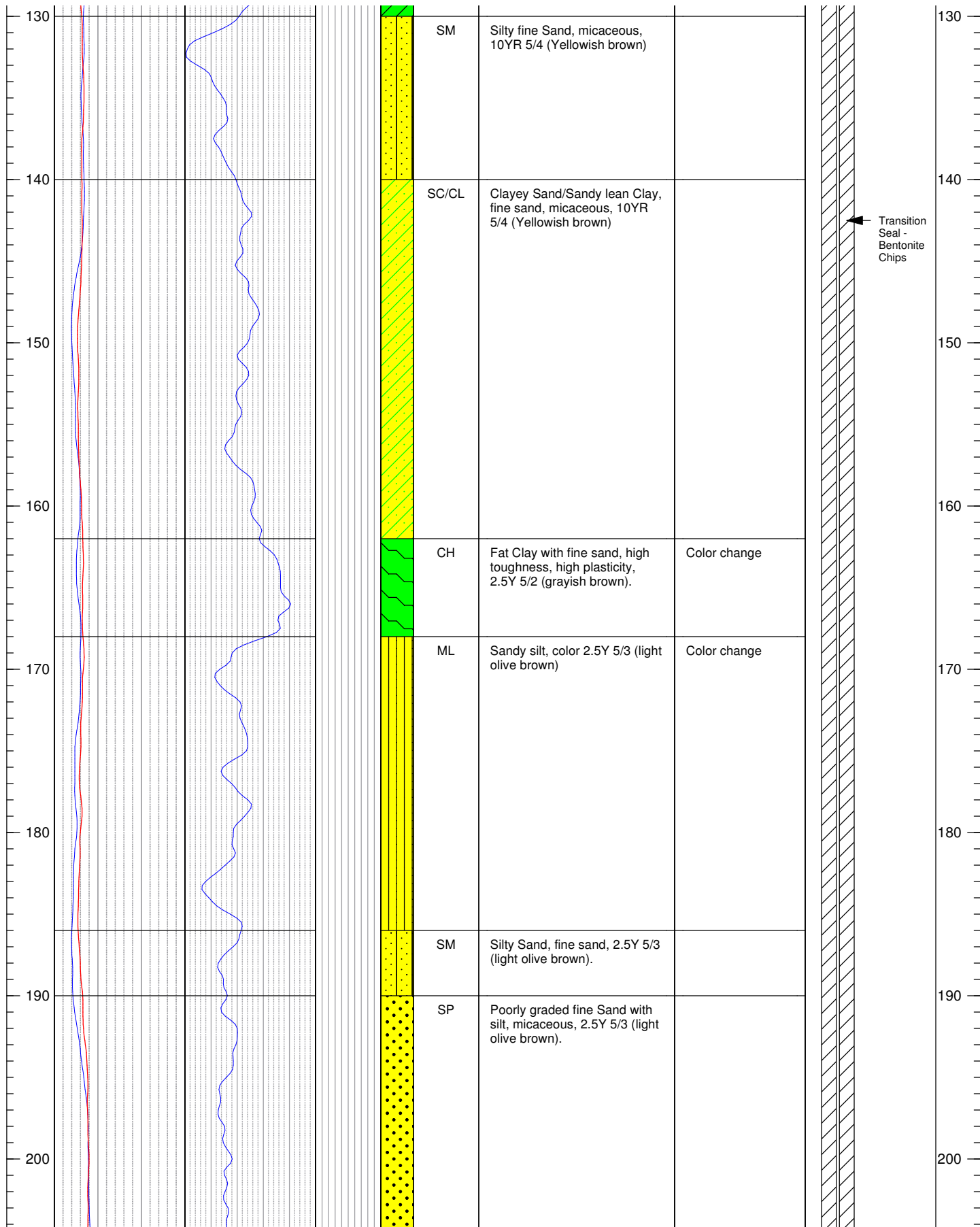






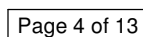
Lithologic Log of OBS-2

Genesis Solar, LLC
Project Number: 52004617





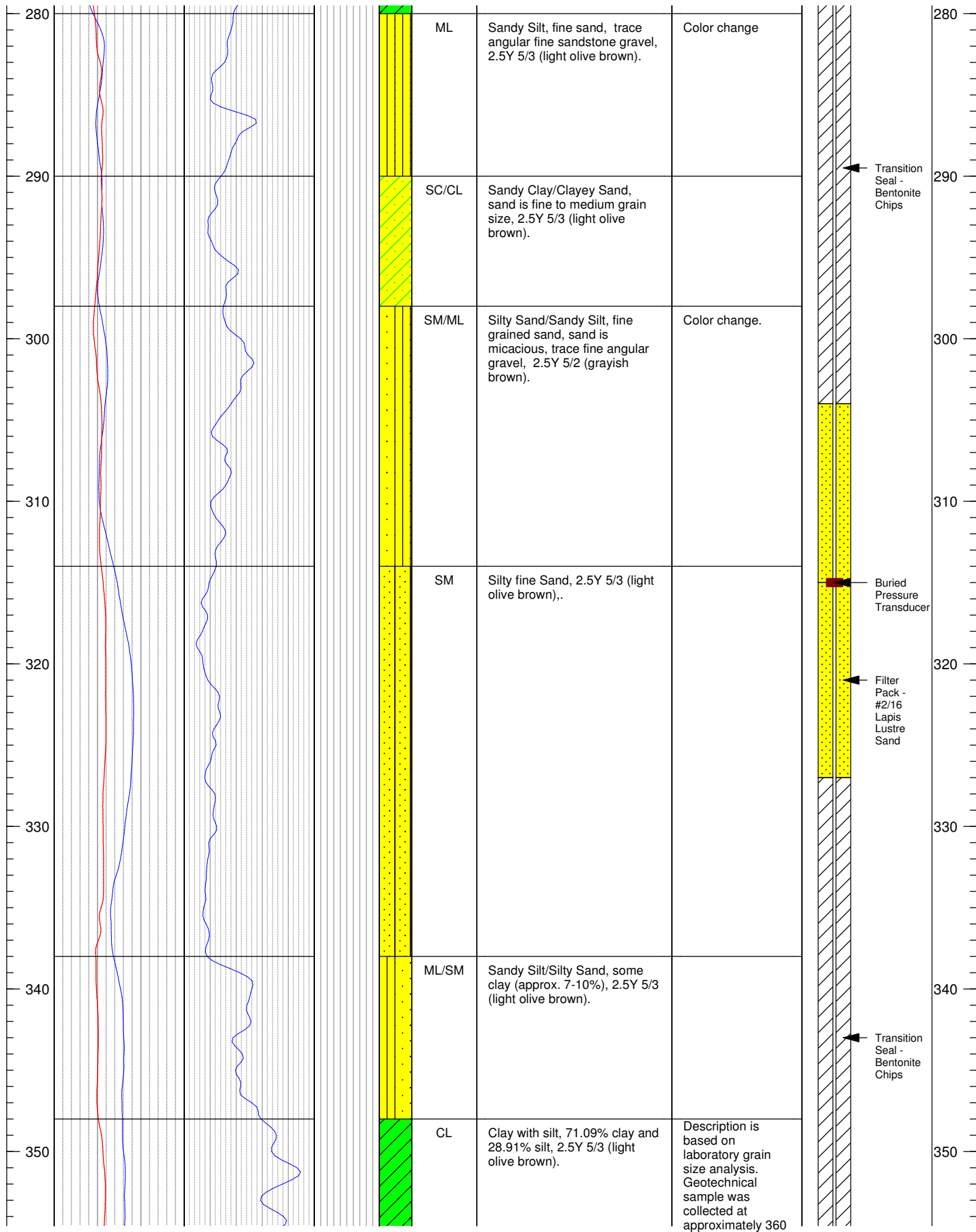
Genesis Solar, LLC
Project Number: 52004617

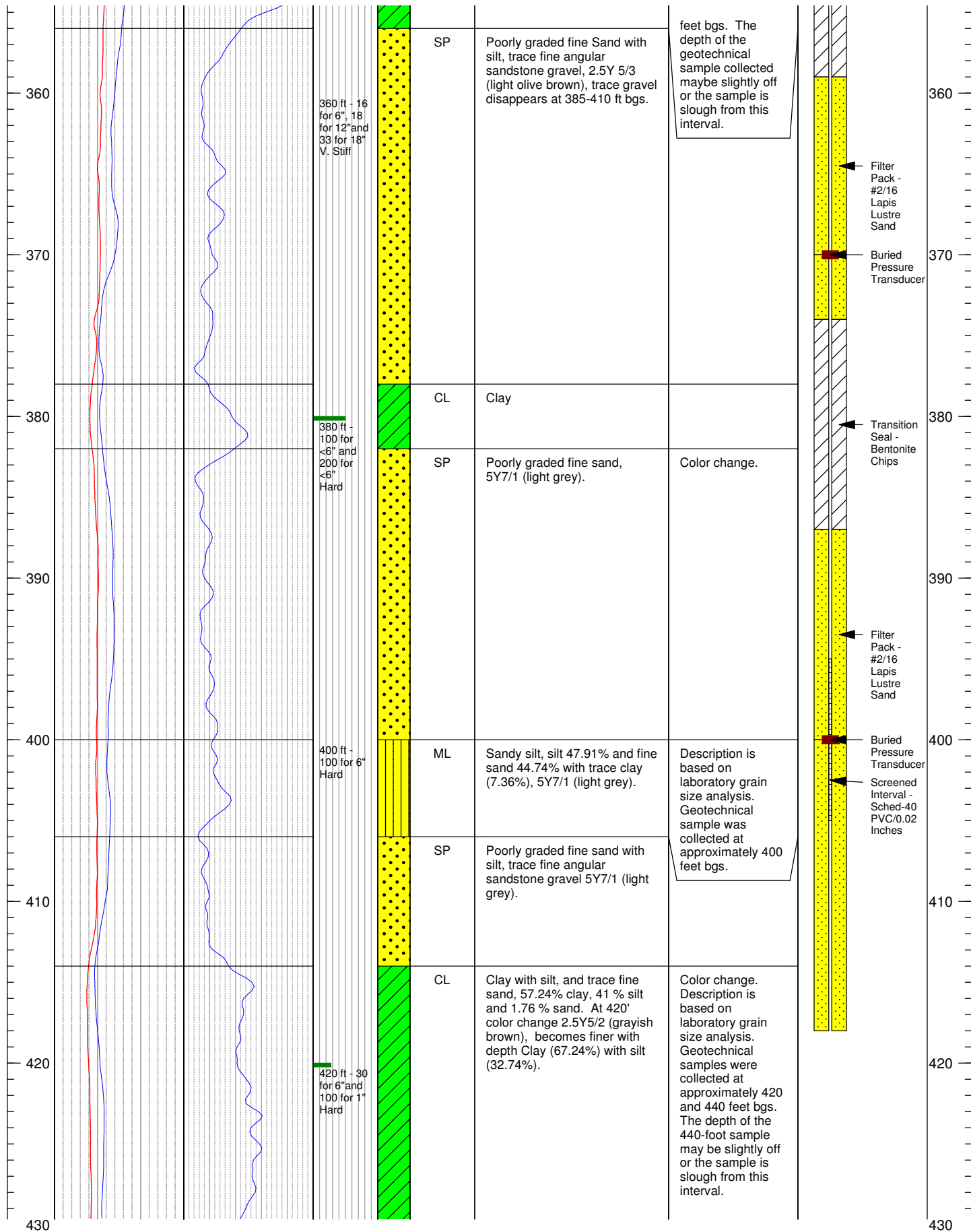


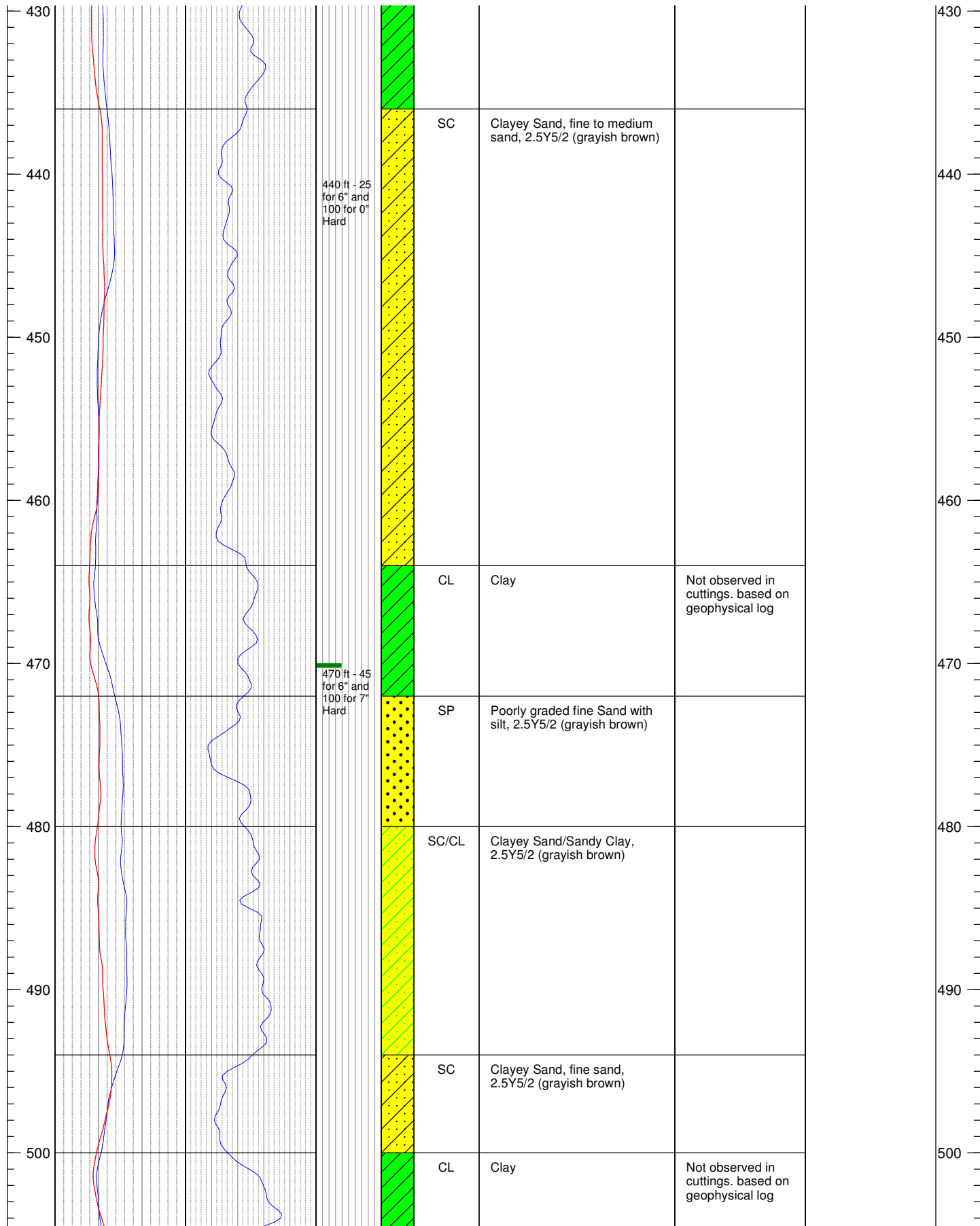


Lithologic Log of OBS-2

Genesis Solar, LLC
Project Number: 52004617



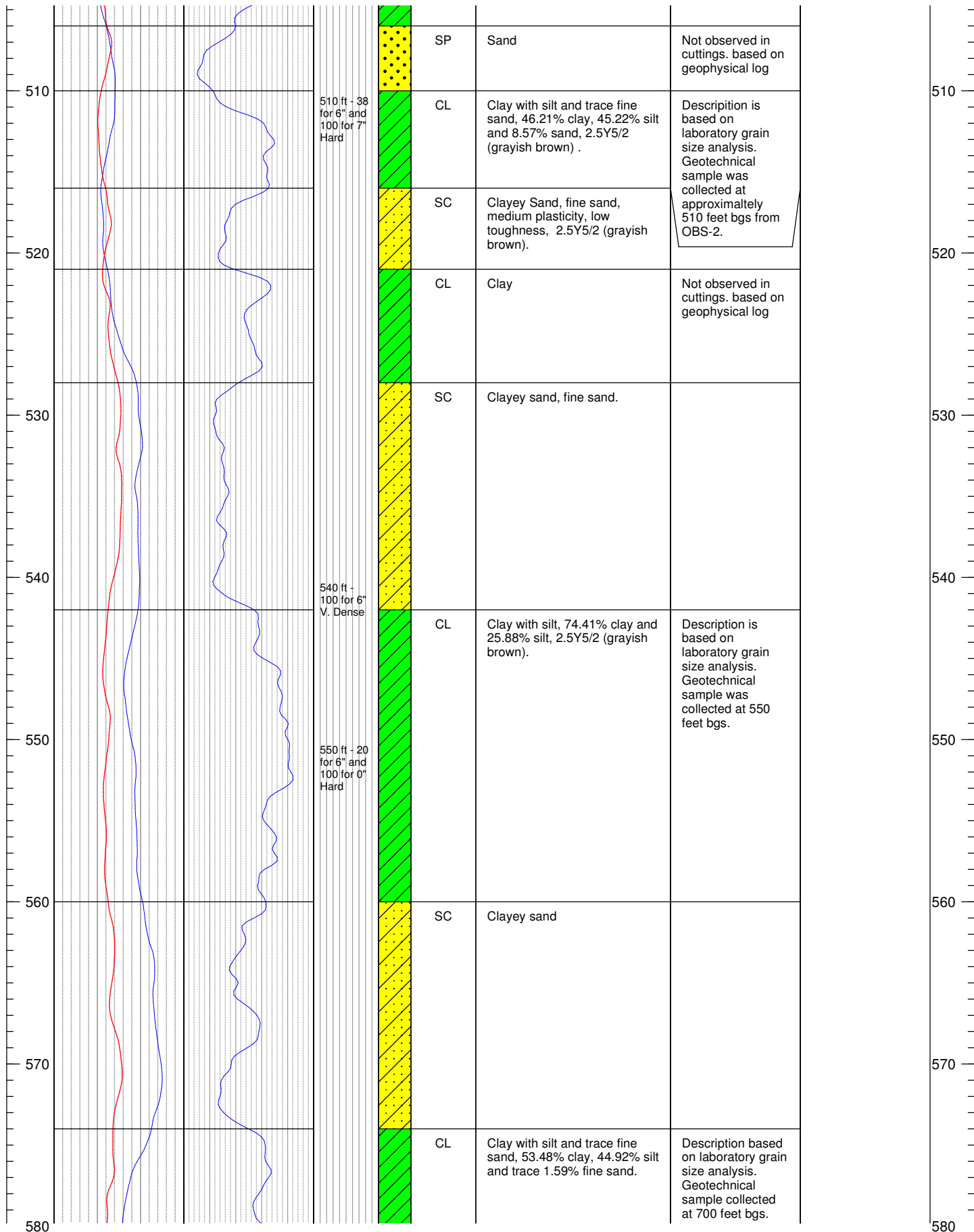


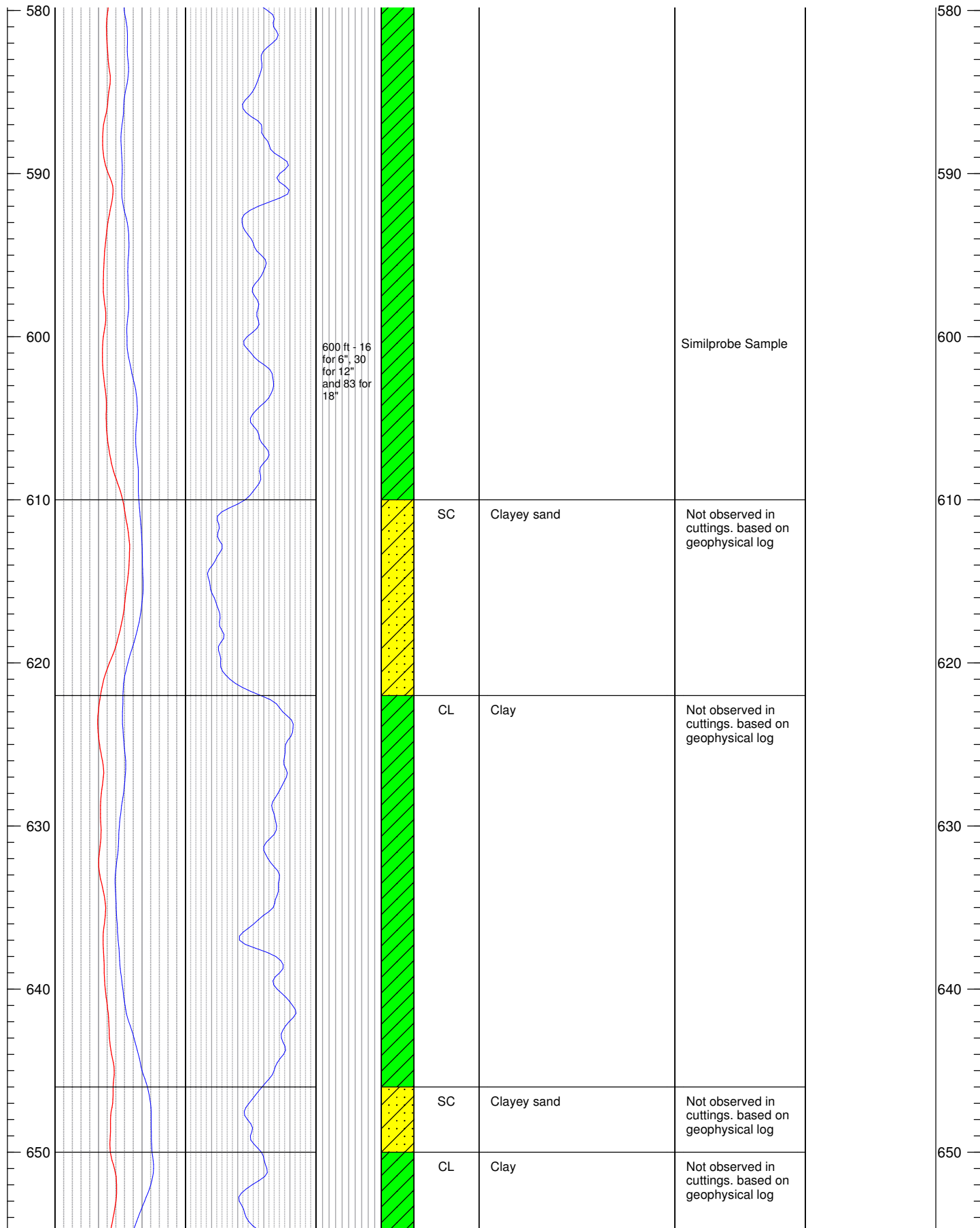


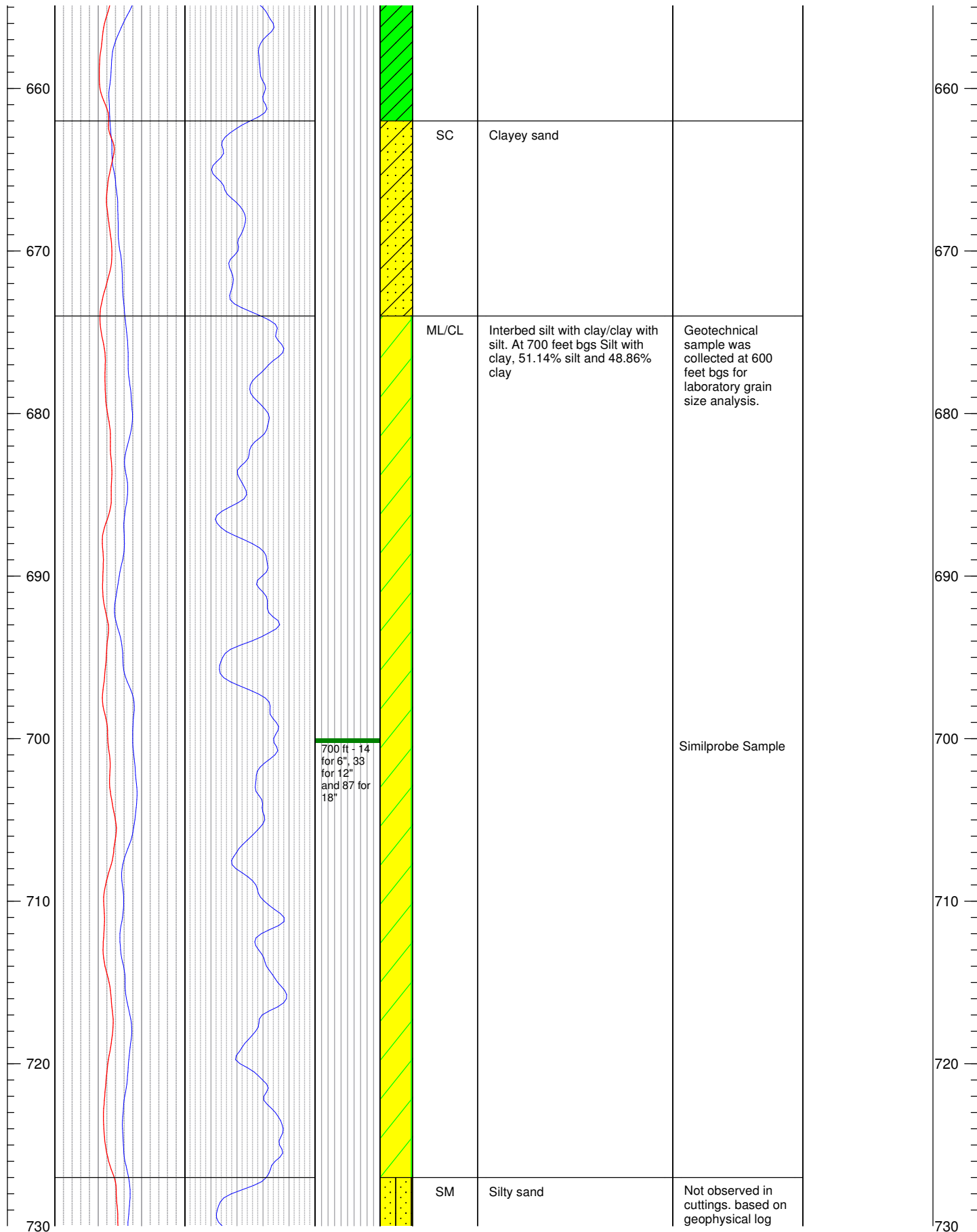


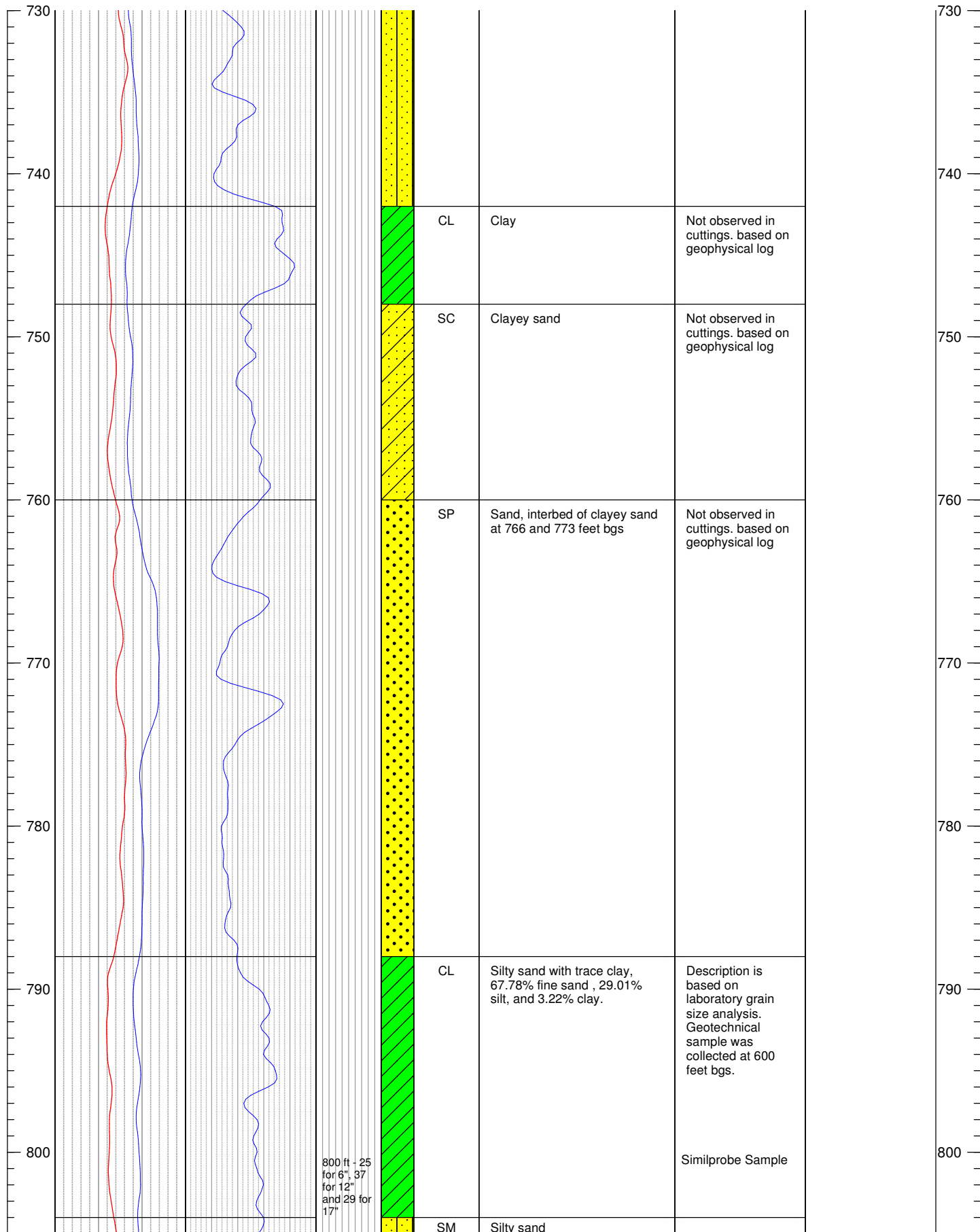
Lithologic Log of OBS-2

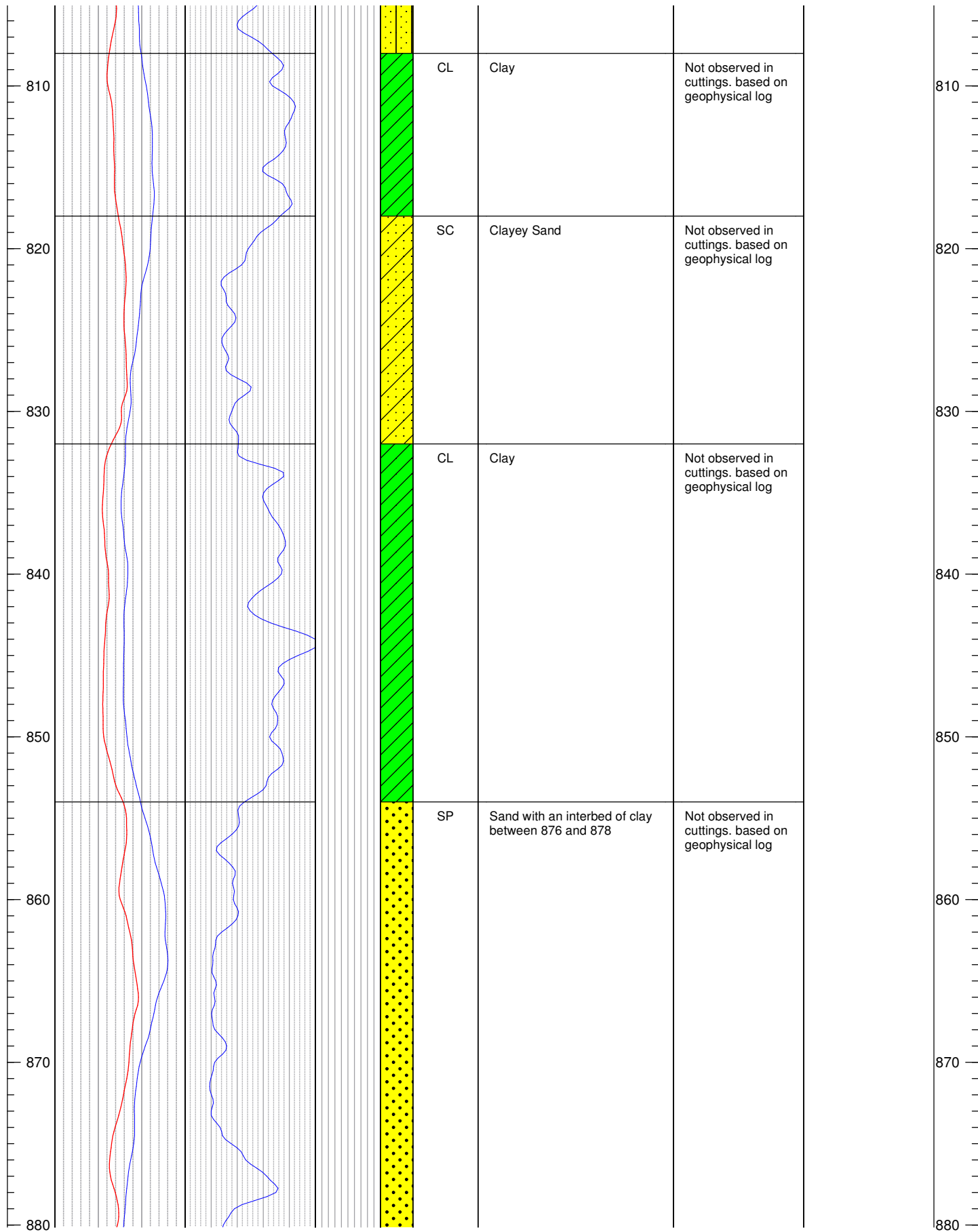
Genesis Solar, LLC
Project Number: 52004617

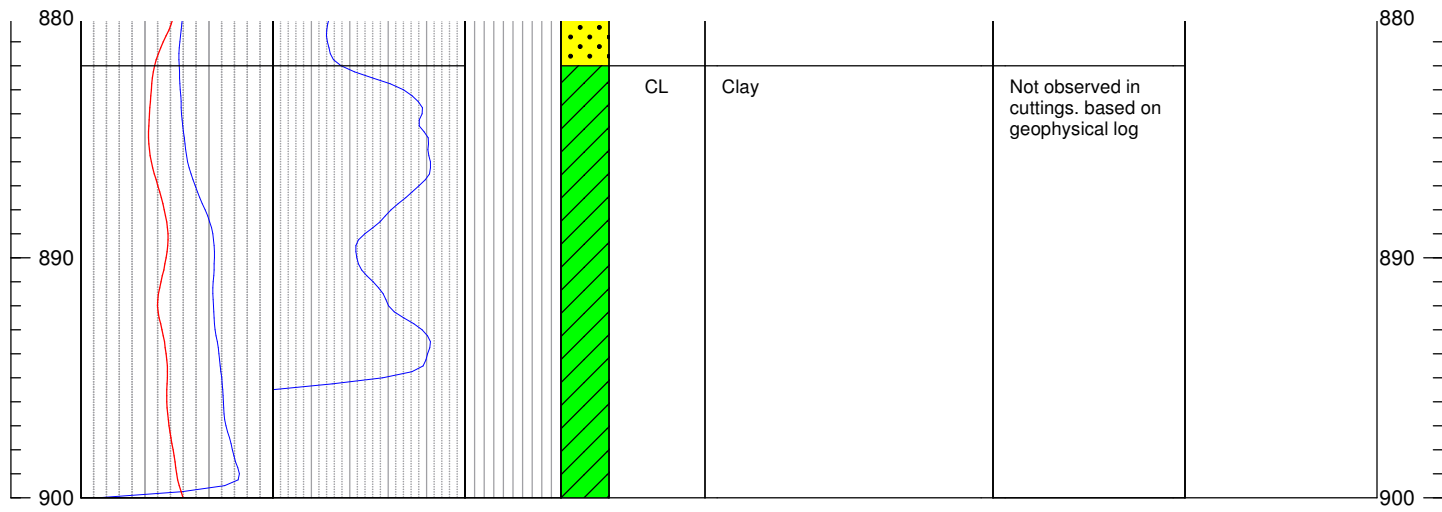












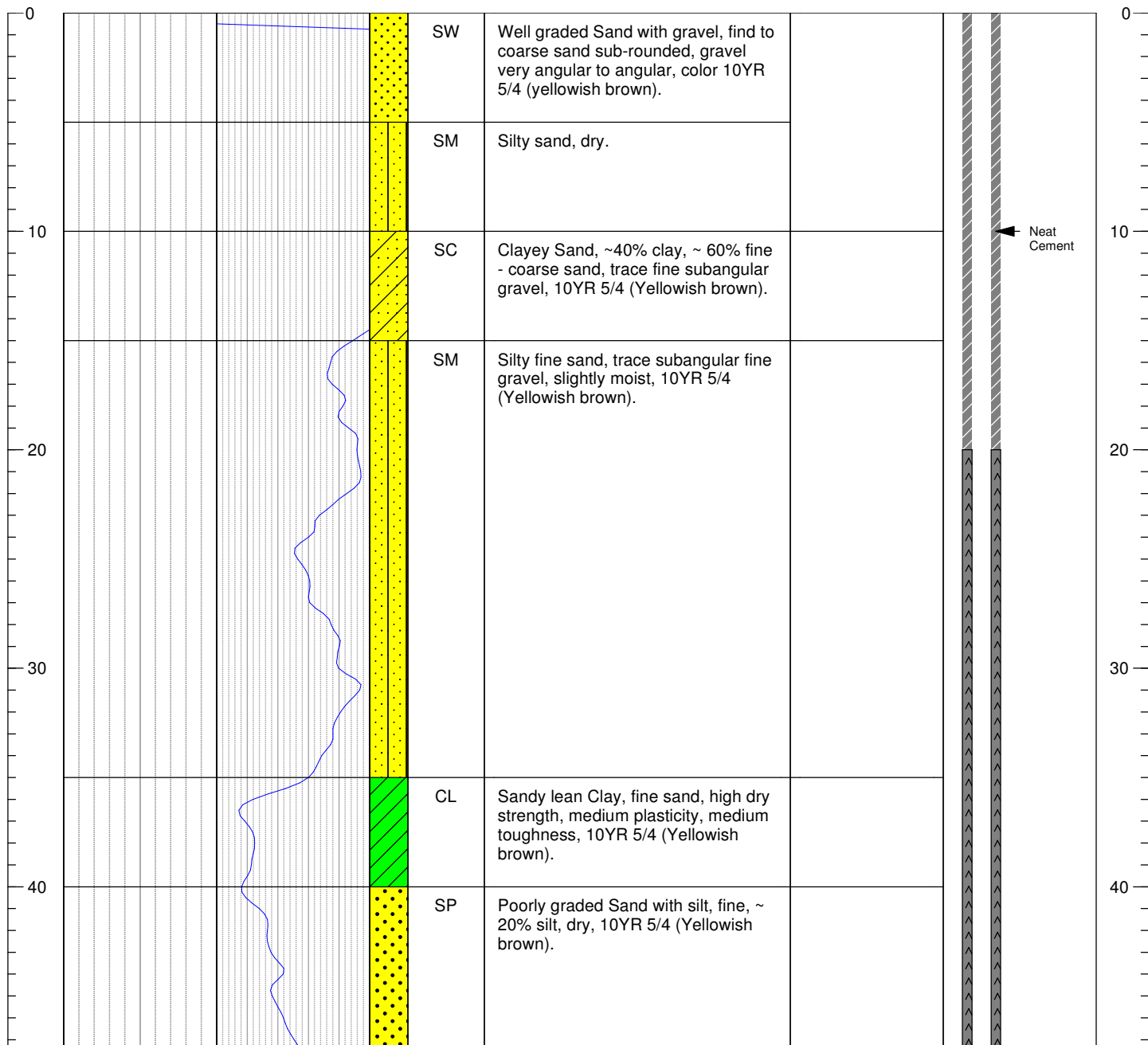


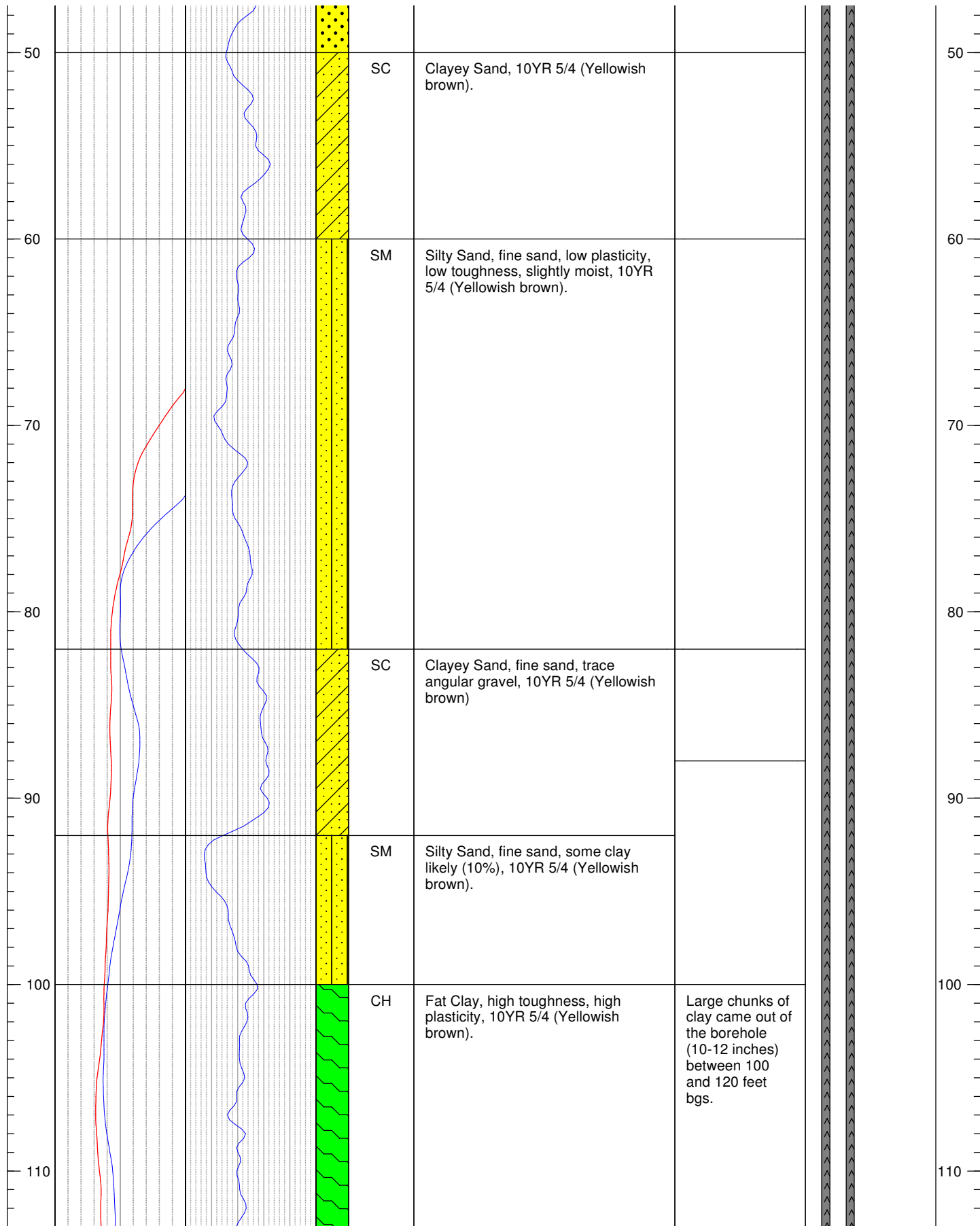
Date Drilled: 05/15/2009 to 05/18/2009		Borehole Location: N33°40.419' W115°03.268	
Drilling Method: Mud Rotary, 10" Diameter		Ground Surface Elevation: 383 feet amsl	
Drilling Contractor: WDC Exploration		Static Water Level: 86.26 feet amsl	
Geologist: Nat Beal	Reviewer: Nat Beal	Total Depth: 564 ft	Well Depth: 555 ft

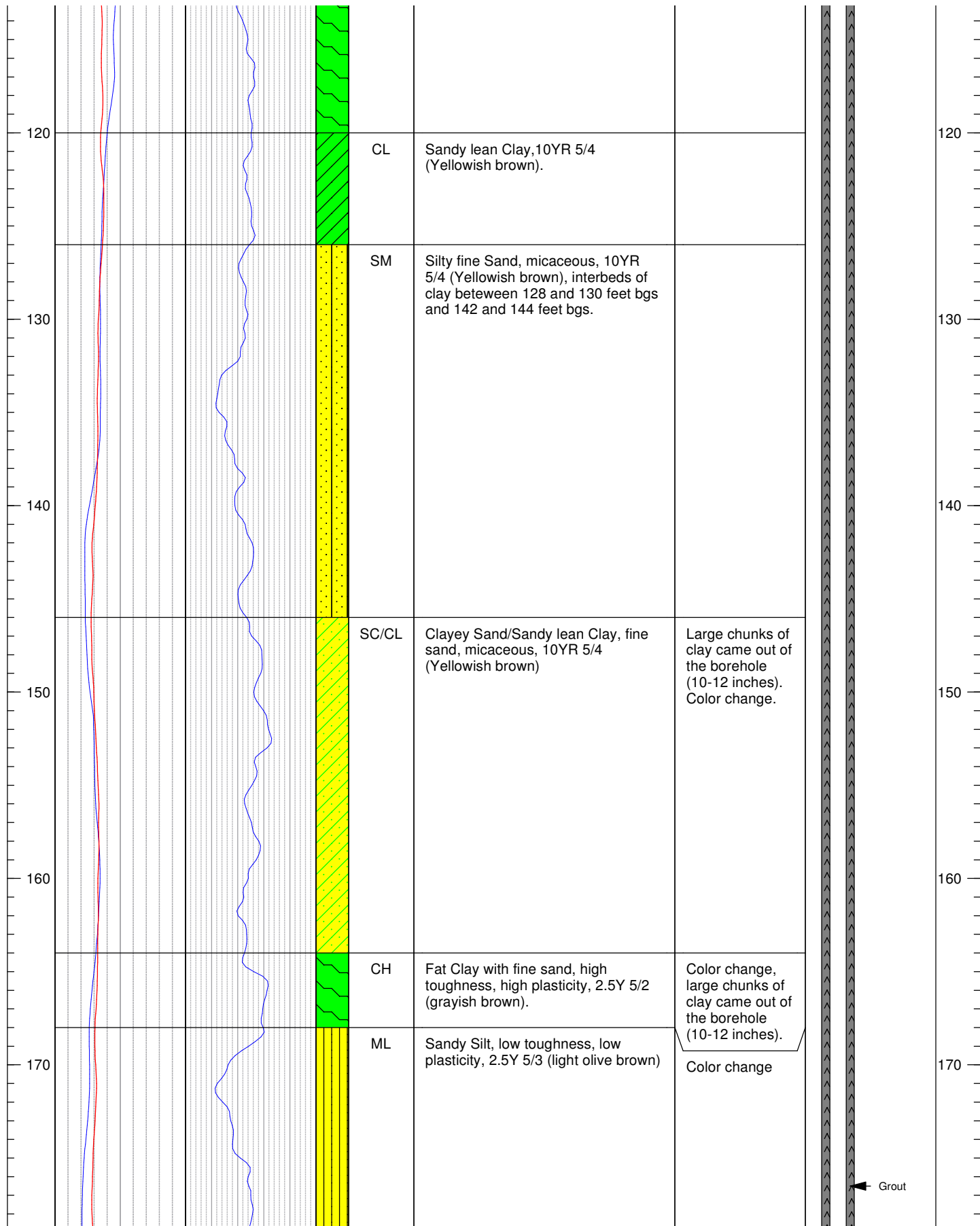
Notes:

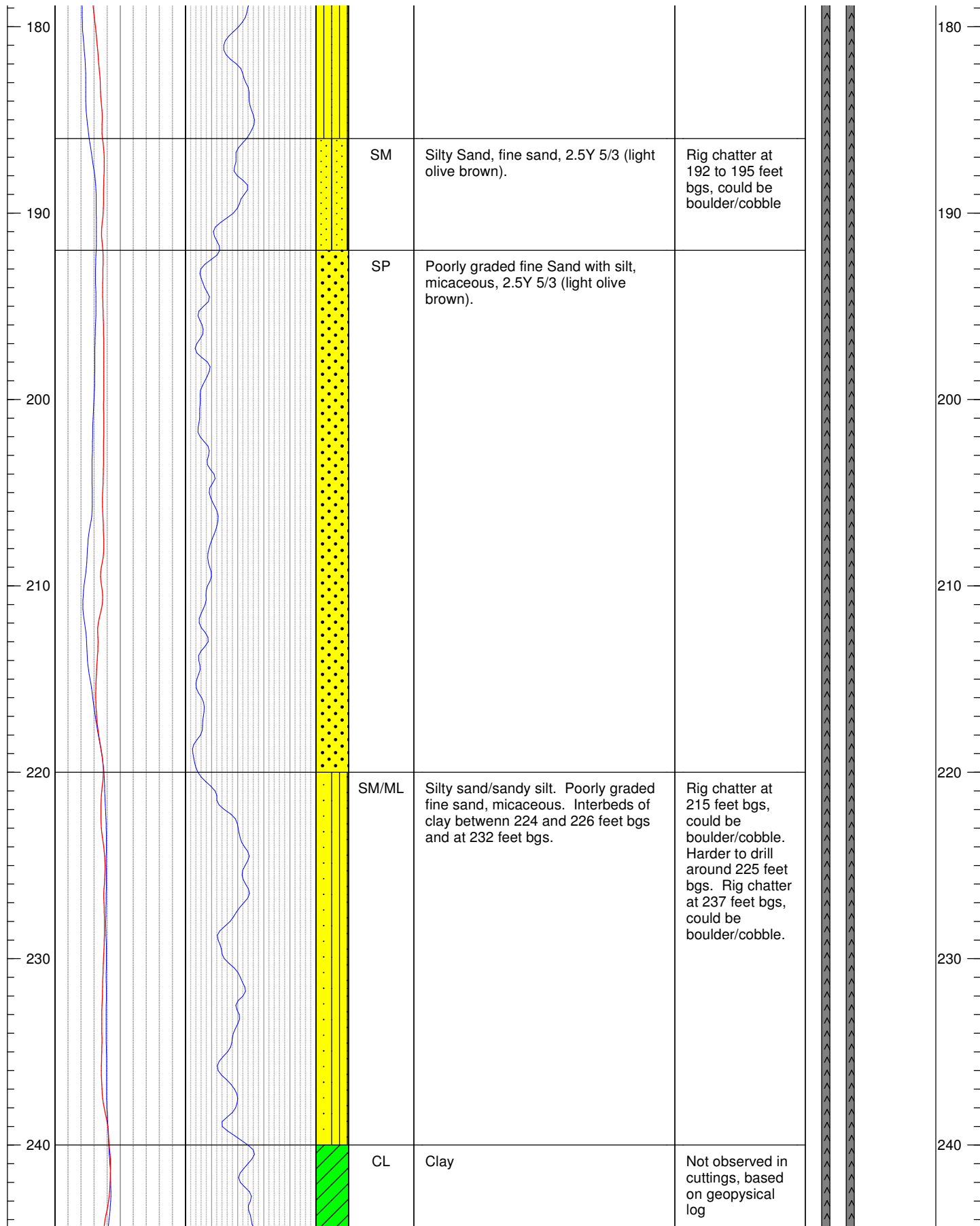
- 1) The upper 160 ft were adjusted based on the cuttings log from OBS-1 and the geophysical logs
- 2) From 160 ft to 550 ft the log was adjusted based on the borehole geophysical logs for this well and geotechnical samples collected from well OBS-2.
- 3) RLN and RSN logs have been corrected to 77 degrees F

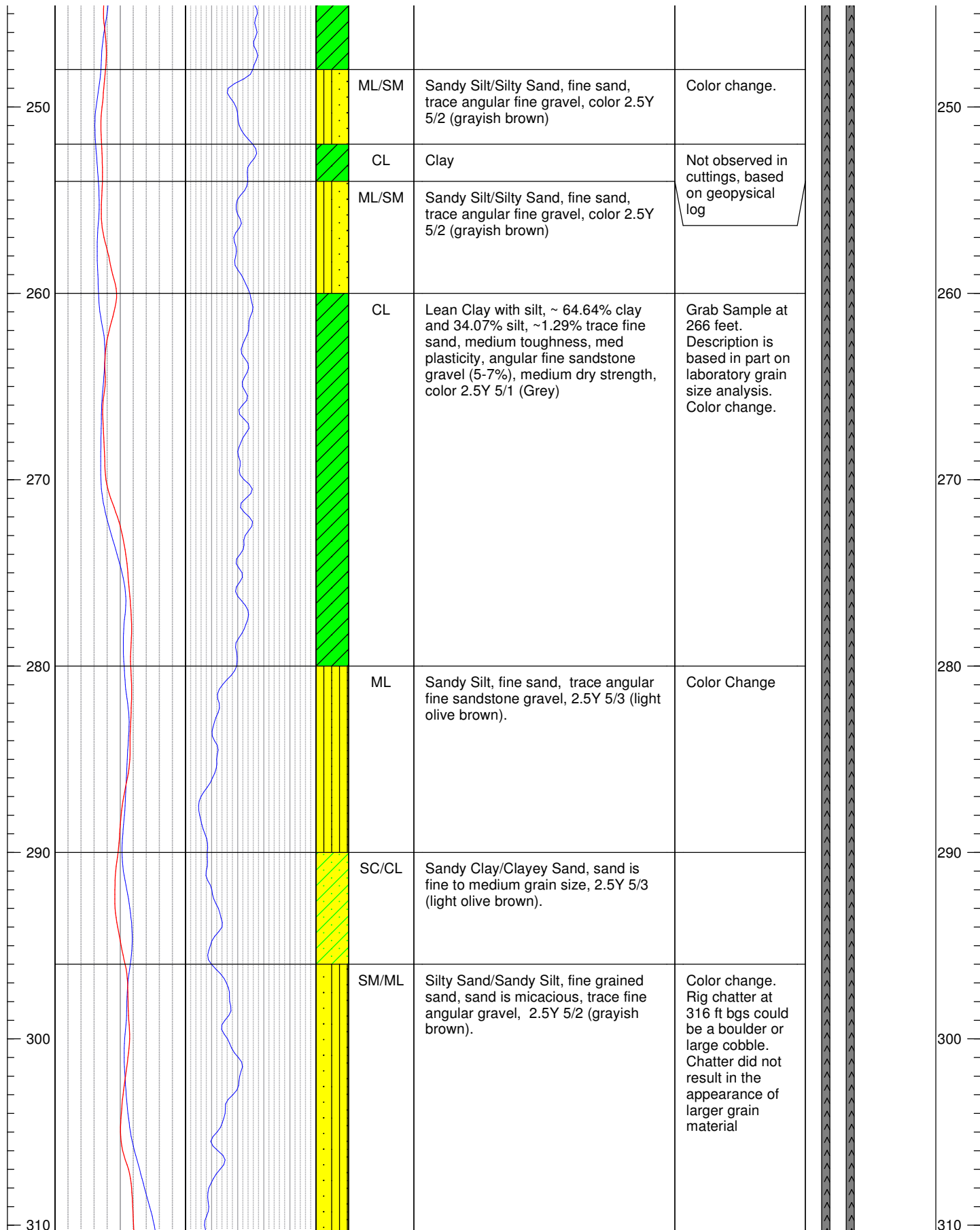
Depth - Feet	GEOPHYSICAL LOGS				USCS Soil Type	Geologic Description	Remarks	Well Schematic
	0	RLN (OHM-M)	10	Gamma				
	0	RSN (OHM-M)	10	40 (GAPI) 140				

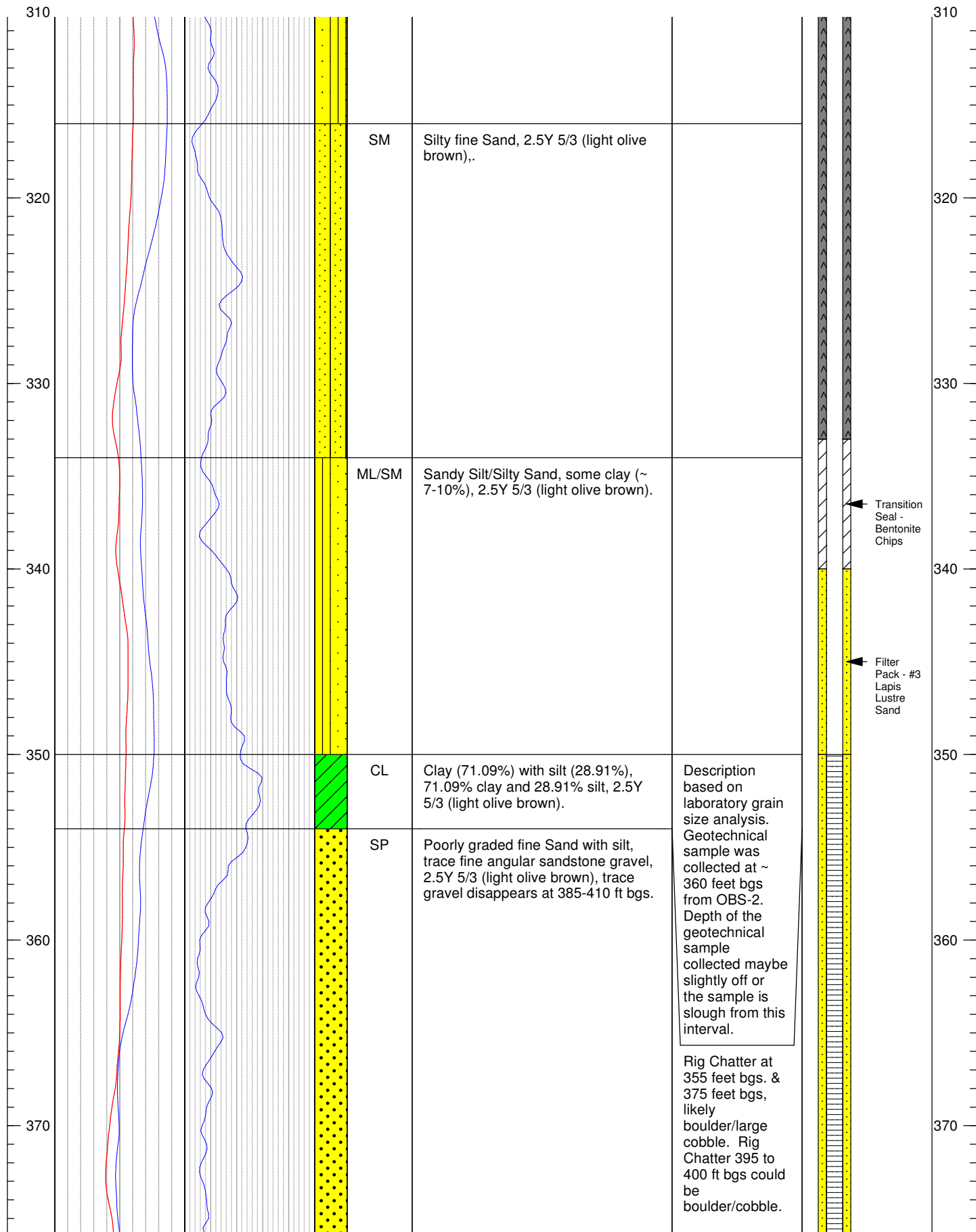


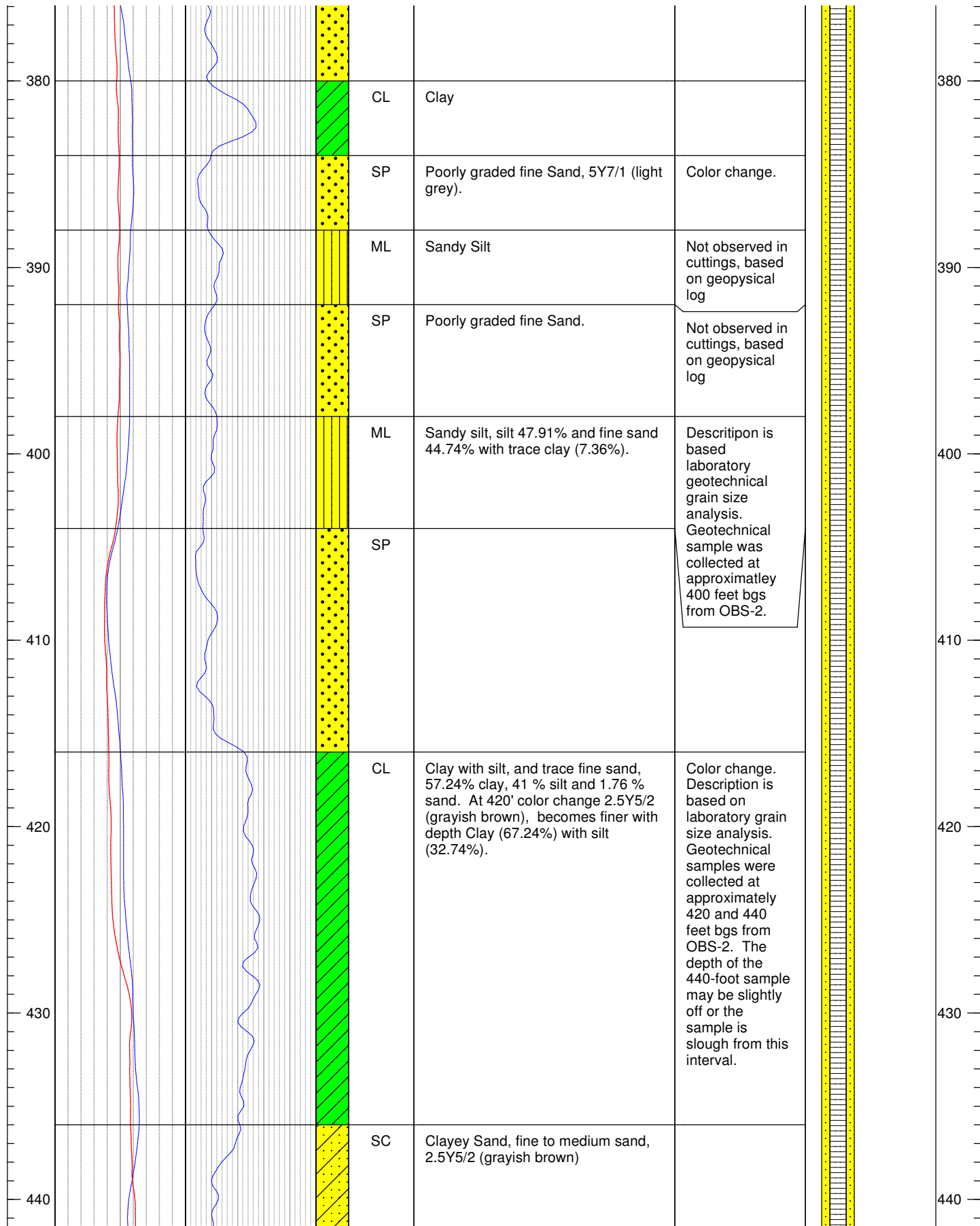


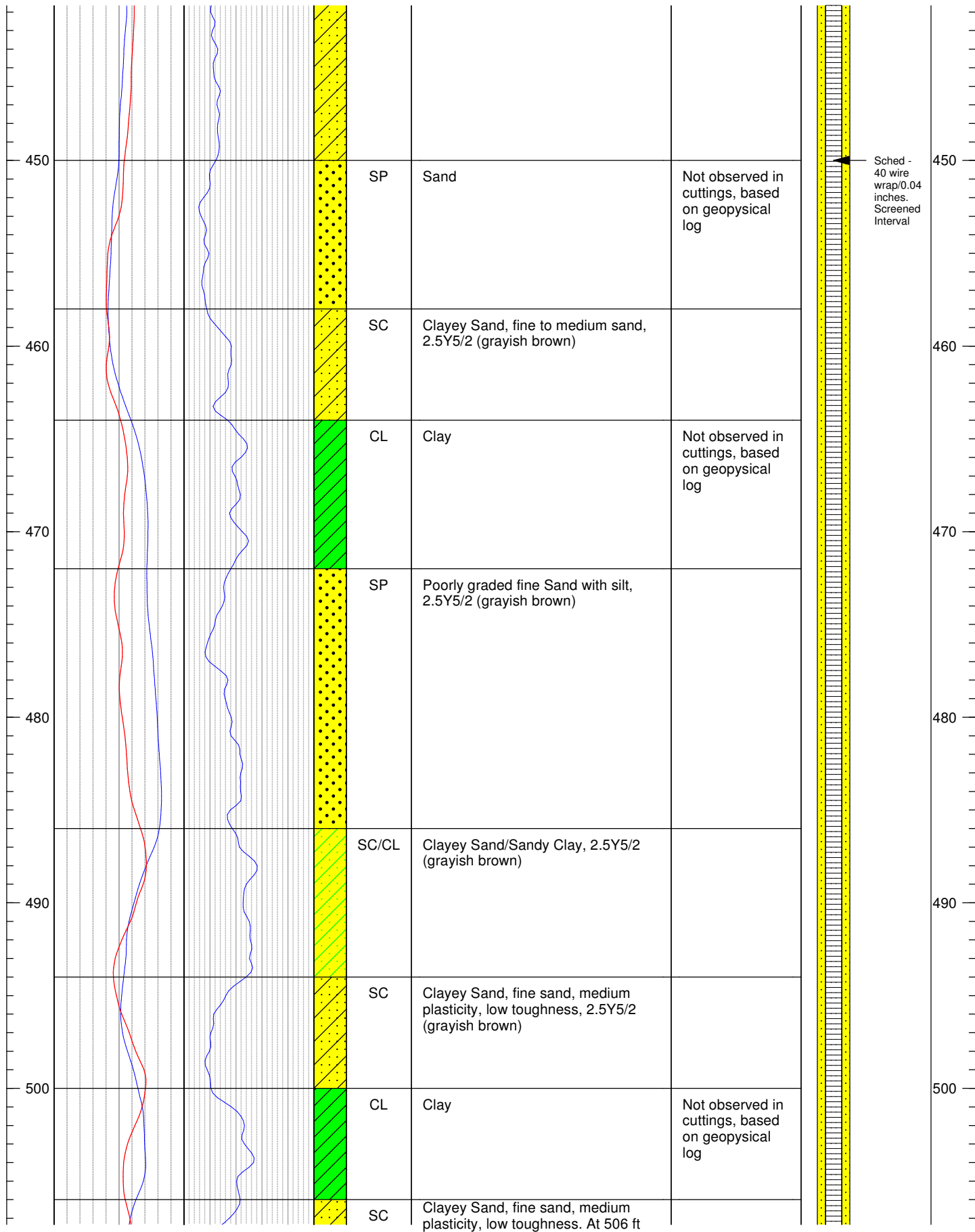


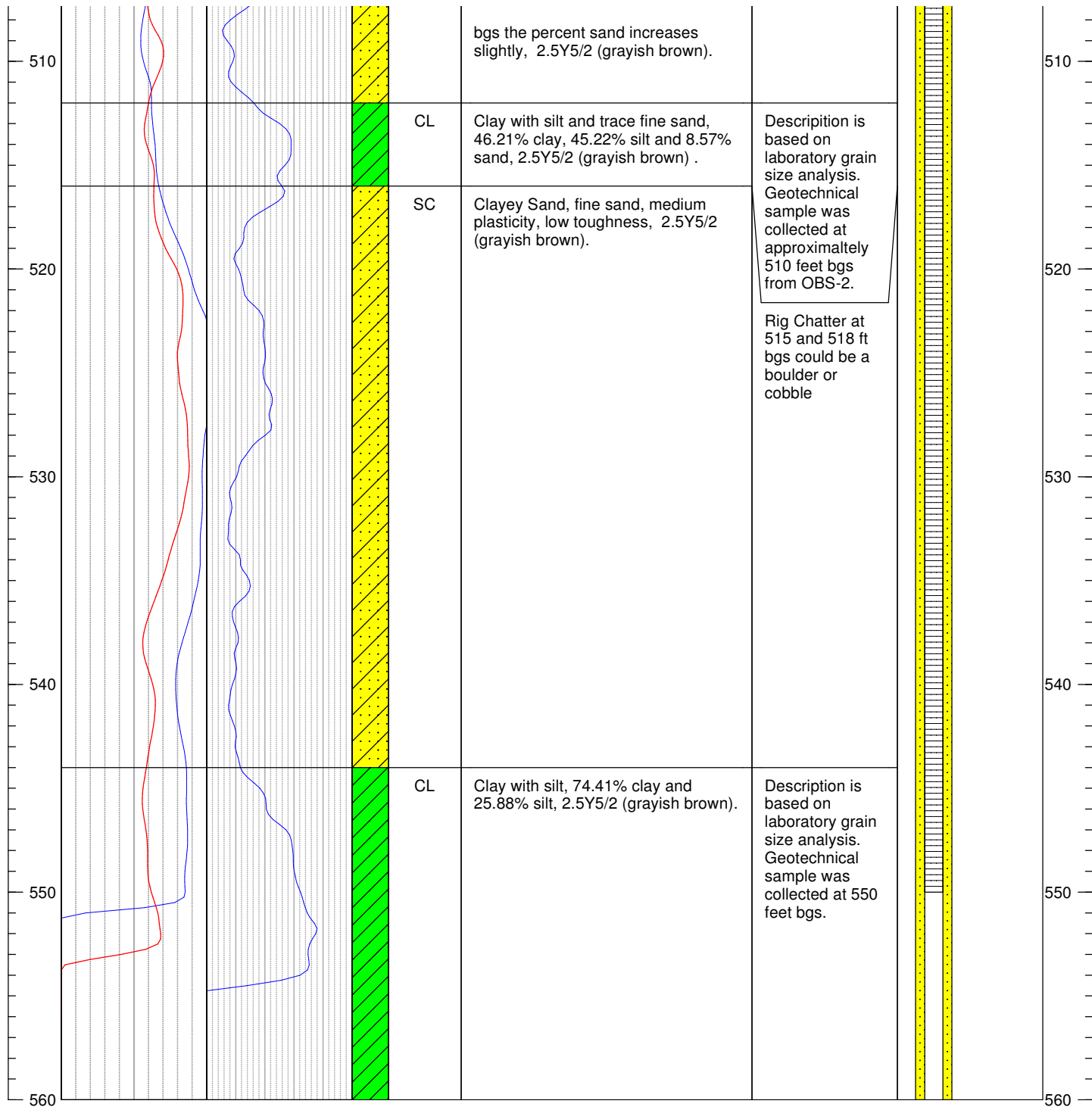












Determination of Total Dissolved Solids (TDS) from Electrical Resistivity Logs

Theory

The resistivity of a clean (clay free), water-bearing formation is proportional to the resistivity of the fluid with which it is fully saturated (formation water). The constant of proportionality is the formation resistivity factor, F (Schlumberger Wireline and Testing). The formation factor can be related to the recorded deep-investigation resistivity (R_t) and the apparent resistivity of the formation water (R_{wa}) by:

$$R_{wa} = \frac{R_t}{F} \quad (1)$$

For clean, water bearing zones, the R_{wa} value derived from the above equation is equal to the true formation water resistivity (R_w) (Schlumberger Log Interpretation Principals, 1991).

The TDS concentration can be approximated from the formation water resistivity using the assumption that TDS in mg/L is proportional to the conductivity of the formation water (σ_w) in $\mu\text{S}/\text{cm}$. The proportionality constant for fluids where chloride is the dominant ion is approximately 0.7.

$$\text{TDS} = \sigma_w(0.7) \quad (2)$$

Log OBS-2

TDS of the formation water was calculated for log OBS-2 as described below. The following were assumed for the purpose of this interpretation:

- The dominant anion in the formation fluid is chloride;
- The groundwater sample collected between 350 and 550 fbgs in well TW-01 is representative of the groundwater for the same interval in well OBS-2;
- The proportionality factor between σ_w and TDS is 0.54 for the interval 80 fbgs to 550 fbgs, as based on the groundwater sample from TW-01. The proportionality factor between σ_w and TDS is 0.5 for the interval 550 fbgs to 900 fbgs, as based on the groundwater sample from OBS-2;
- The formation is clean (i.e., no significant clay content);
- And the recorded resistivity (R_t) is equal to the true resistivity of the subsurface.

The deep (long normal) investigation resistivity log (RLN) and the shallow (short normal) investigation resistivity log (RSN) were corrected to a constant temperature of 77°F. A temperature log was generated using a temperature gradient of 0.0147°F/ft as calculated from measured fluid temperatures at 270 fbgs (90.85°F) and 400 fbgs (92.76°F). The temperature gradient was assumed to remain constant for the full depth of the log. The temperature correction was applied by using:

$$R_{T2} = R_{T1} [T1 + 6.77] / (T2 + 6.77) \quad (3)$$

Where R_{T2} is the resistivity at 77°F, R_{T1} is the resistivity as recorded, $T1$ is the value from the generated temperature log, and $T2$ is 77°F.

Rearranging Equation 3, specific conductance values from groundwater samples collected at 800 fbgs (OBS-2) and 350 to 550 fbgs (TW-01), and the temperature corrected resistivity log from OBS-2 at the sample depths, were used to calculate formation factor values. It is assumed that the formation factor calculated from the TW-01 sample is representative of 80 fbgs to 550 fbgs, and the formation factor calculated from the OBS-2 sample is representative of 550 fbgs to 900 fbgs. Table A contains the calculated formation factors.

Table A Calculated Formation Factors

Well	Sample Depth	Calculated Formation Factor	Representative Interval
TW-01	350 fbgs to 550 fbgs	12	80 fbgs to 550 fbgs
OBS-2	800 fbgs	8.5	550 fbgs to 900 fbgs

Formation fluid resistivity was determined using the calculated formation factors and the temperature corrected resistivity log (Equation 3), and converted to TDS using the proportionality constants for each interval.

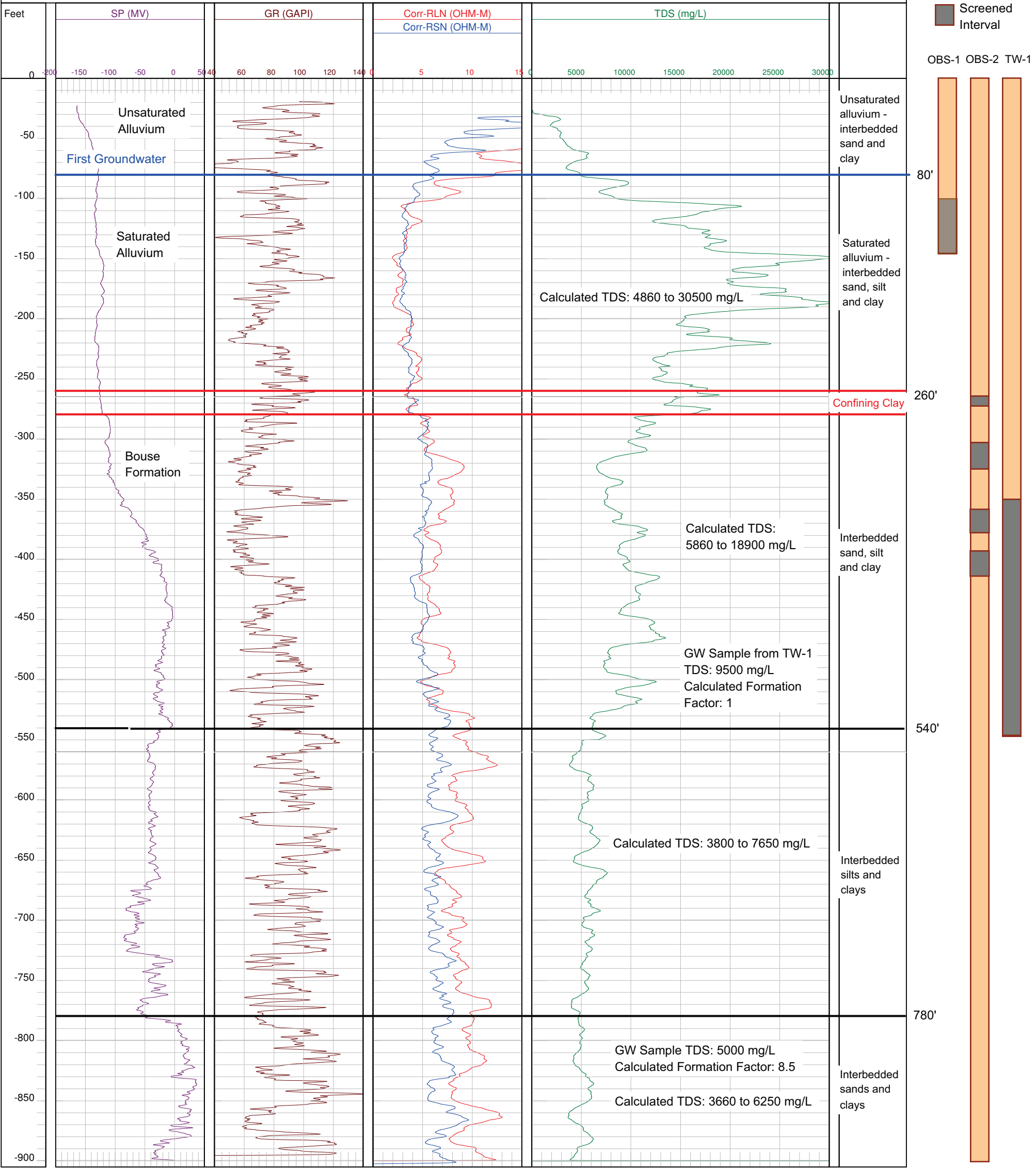
Reference:

Schlumberger Wireline and Testing, 1996. Log Interpretation Principles/Applications. June 1996

Well Name: OBS-2
File Name: J:\WorleyParsons\WP0159000\Geophysics\Log Data\Well OBS-2\View Log\OBS 02_presentation2.HDR
Location: FORD DRY LAKE. GPS: N33°40.419' W115°03.268
Logged: 06/20/09

SP = Spontaneous Potential Log
GR = Natural Gamma Counts Log
Corr-RSN = Short Resistivity Log Corrected to 77 degrees F
Corr-RLN = Long Resistivity Log Corrected to 77 degrees F
TDS = Calculated from the formation water salinity determined from the Formation Factor (8.5 for 550 to 800 ftbgs and 12 for 0 to 550 ftbgs)

PRELIMINARY
Project: WP0159000. Drawn by: MACJ. Edited by: MACJ. Date: 17/07/19



ATTACHMENT 3: GEOPHYSICAL LOGS

<div>PACIFIC SURVEYS</div>			<div>ELECTRIC LOG LATEROLOG 3 GAMMA RAY</div>		
Job No. 14640		Company WDC EXPLORATION & WELLS			
		Well TW-1			
		Field FORD DRY LAKE			
File No.		County	RIVERSIDE	State	CA
Location: FORD DRY LAKE GPS: N33°40.419' W 115°03.261'		Other Services: GRLL3 CALPER SONIC/DEV			
Sec.	Twp.	Rge.			
Permanent Datum	G.L.				
Log Measured From	G.L.	0'	Elevation above perm. datum		Elevation K.B. D.F. G.L.
Drilling Measured From	G.L.				
Date	5/19/2009				
Run Number	ONE				
Depth Driller	561'				
Depth Logger	564'				
Bottom Logged Interval	563'				
Top Log Interval	70'				
Casing Driller	N/A				
Casing Logger	N/A				
Bit Size	10.5"				
Type Fluid in Hole	BENTONITE				
Density / Viscosity	N/A				
pH / Fluid Loss	N/A				
Source of Sample	CIRCULATED				
Rm @ Meas. Temp	1.98 @ 77F				
Rmf @ Meas. Temp	1.72 @ 77F				
Rmc @ Meas. Temp	N/A				
Source of Rmf / Rmc	MEAS				
Rm @ BHT	N/A				
Time Circulation Stopped	3 HOURS				
Time Logger on Bottom	10:30 AM				
Max. Recorded Temperature	N/A				
Equipment Number	PS-1				
Location	L.A.				
Recorded By	ABREAU				
Witnessed By	N. BEAL				

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Comments

ELOG Calibration Report

Serial:
Model:D1
DTQShop Calibration Performed:
Before Survey Verification Performed:
After Survey Verification Performed:Wed Jan 28 14:40:45 2009
Mon Aug 06 11:54:10 2007
Mon Aug 06 11:54:38 2007

Shop Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	10.916	101.981		10.200	102.200	Ohm-m	1.010	-0.828
Long	15.254	104.296		10.200	102.200	Ohm-m	1.033	-8.746
IEE	0.000	0.000	counts	0.000	0.000	A		
VSN	0.000	0.000	counts	0.000	0.000	V		
VLN	0.000	0.000	counts	0.000	0.000	V		

Before Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	183.906	100.821		9.828	100.799	Ohm-m	-1.095	211.190
Long	422.542	101.924		101.776	101.776	Ohm-m	-0.317	134.130
IEE	0.000	0.000	counts	0.000	0.000	A		
VSN	0.000	0.000	counts	0.000	0.000	V		
VLN	0.000	0.000	counts	0.000	0.000	V		

After Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	117.548	100.824		183.906	100.821	Ohm-m	4.968	-400.076
Long	271.705	101.931		101.924	101.924	Ohm-m	1.888	-90.571
IEE	0.000	0.000	counts	0.000	0.000	A		
VSN	0.000	0.000	counts	0.000	0.000	V		
VLN	0.000	0.000	counts	0.000	0.000	V		

After Survey Verification compared to Before Survey Calibration

	Zero			Cal		
	Before	After		Before	After	
Short	9.828	183.906	Ohm-m	100.799	100.821	Ohm-m
Long	0.000	422.542	Ohm-m	101.776	101.924	Ohm-m

Gamma Ray Calibration Report

Serial Number:
Tool Model:
Performed:D1
ELOG
Mon Sep 29 13:55:50 2008

Calibrator Value:

162 GAPI

Background Reading:

151.12 cps

Calibrator Reading:

599.794 cps

Sensitivity:

0.361064

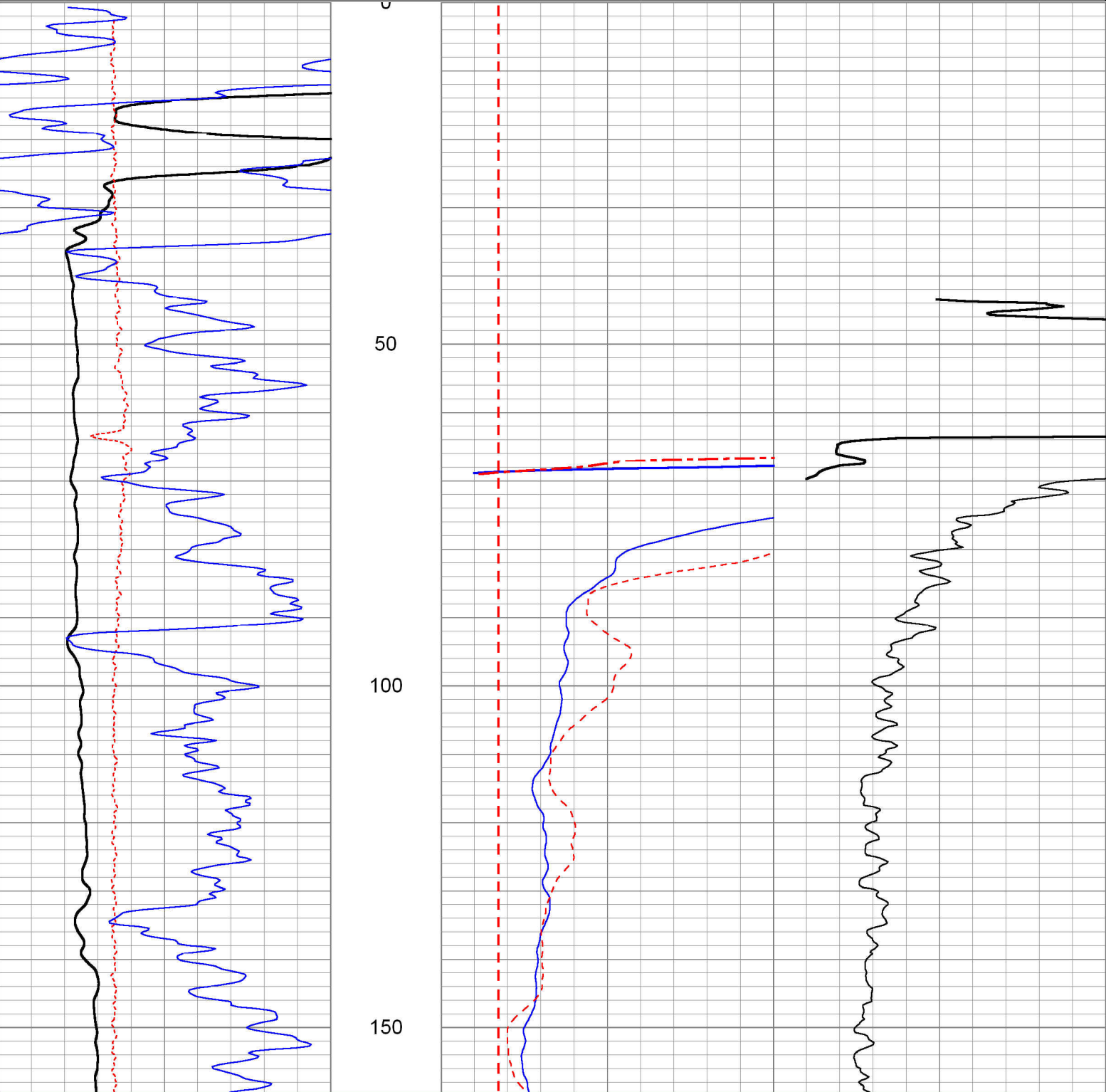
GAPI/cps

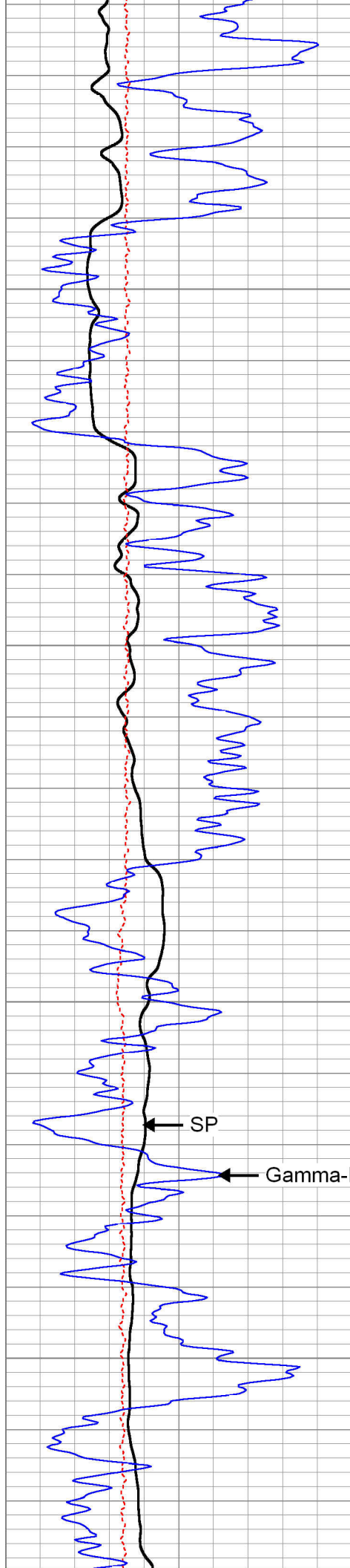
Database File: 14640.db
Dataset Pathname: elog.1
Presentation Format: elog
Dataset Creation: Tue May 19 08:12:35 2009 by Calc Warrior Version 6.6
Charted by: Depth in Feet scaled 1:240

-50	SP (mV)	50
0	Line Speed (ft/min)	100
40	Gamma-Ray (GAPI)	110

0	RSN (Ohm-m)	10
0	RLN (Ohm-m)	10
0	RMF (Ohm-m)	10
100	RSN x 10 (Ohm-m)	1000
100	RLN x 10 (Ohm-m)	1000

0	RLL3 (Ohm-m)	10
10	RLL3 x 10 (Ohm-m)	100





200

RMF →

250

300

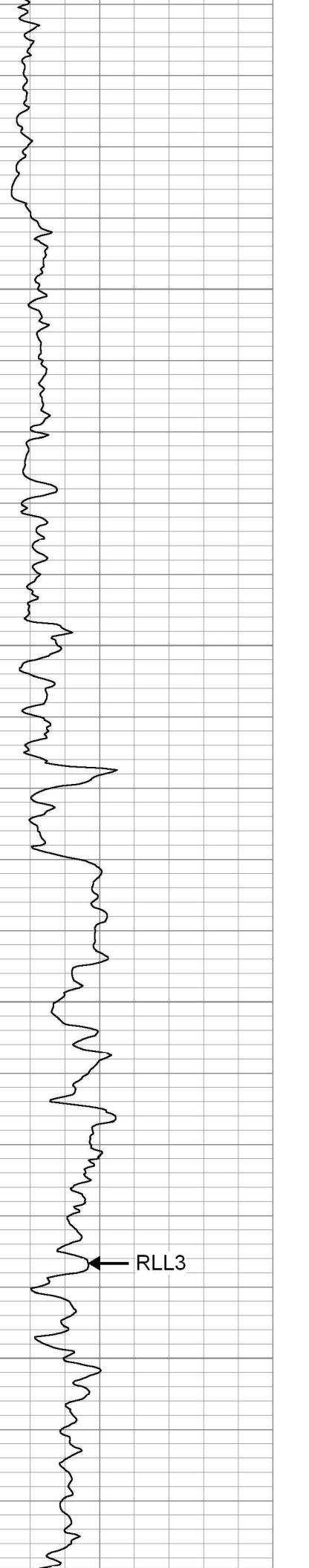
← SP

← Gamma-Ray

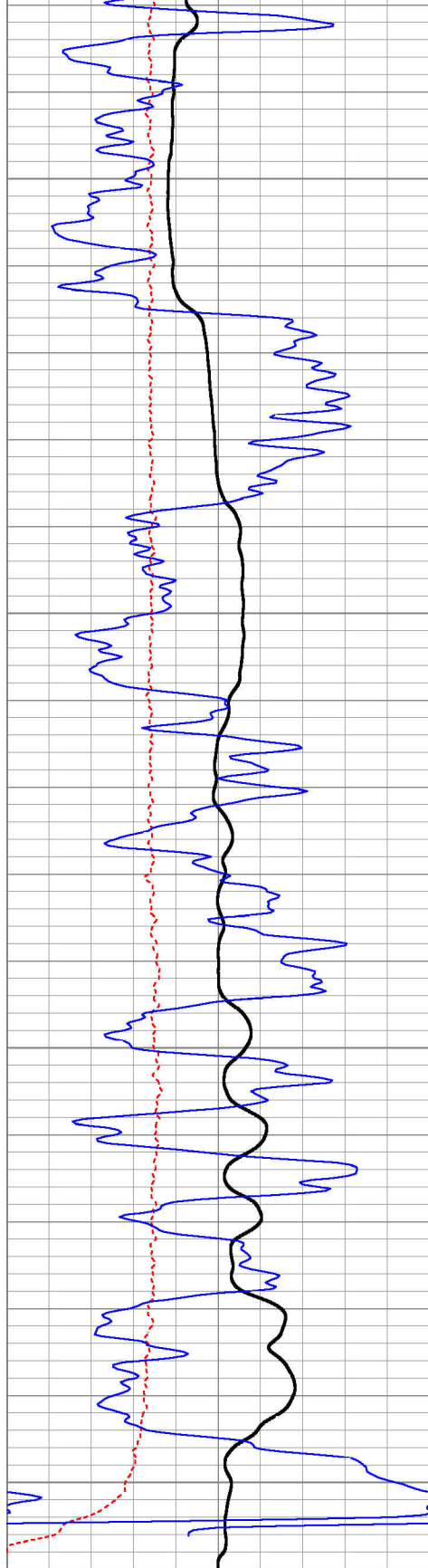
→ RSN

350

← RLN



← RLL3



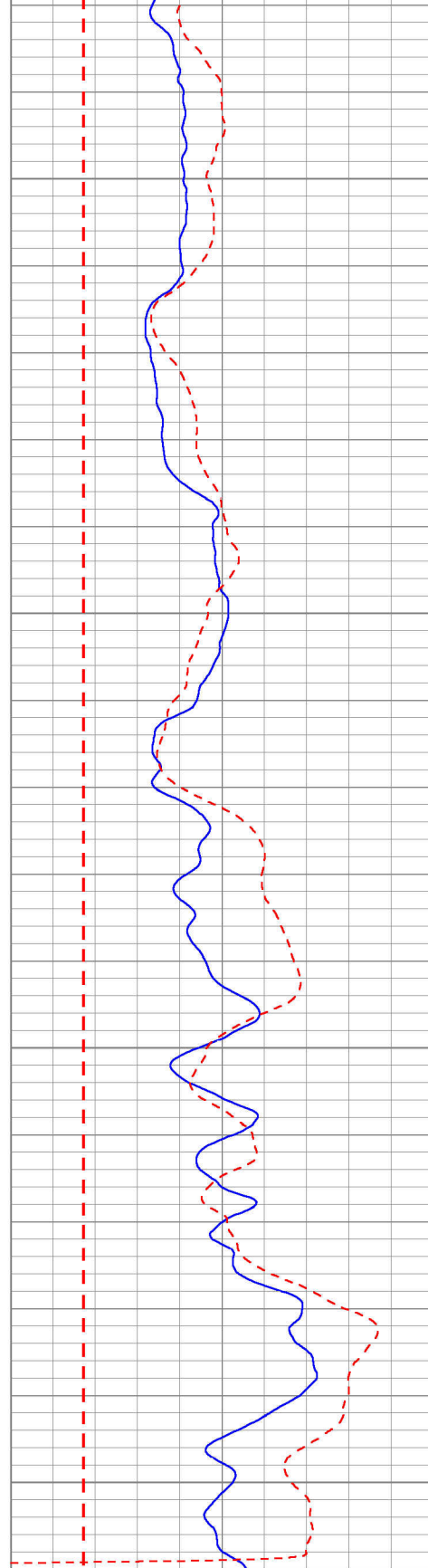
-50	SP (mV)	50
0	Line Speed (ft/min)	100
40	Gamma-Ray (GAPI)	110

400

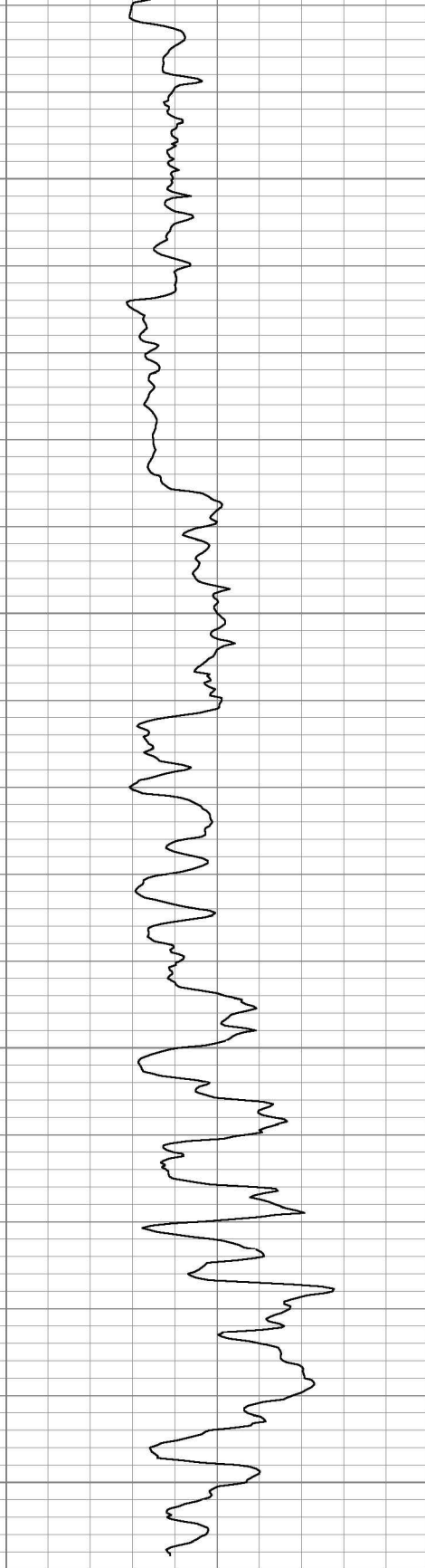
450

500

550



0	RSN (Ohm-m)	10
0	RLN (Ohm-m)	10
0	RMF (Ohm-m)	10
100	RSN x 10 (Ohm-m)	1000
100	RLN x 10 (Ohm-m)	1000



0	RLL3 (Ohm-m)	10
10	RLL3 x 10 (Ohm-m)	100

ELECTRIC LOG GAMMA-RAY

Job No. 14710	Company WDC EXPLORATION & WELLS		Other Services:	
	Well OBS-2			
	Field FORD DRY LAKE			
	County RIVERSIDE	State CA		
Location: FORD DRY LAKE GPS: N33°40.419' W 115°03.268' Sec. Twp. Rge. NONE				
Permanent Datum Log Measured From Drilling Measured From	G.L. G.L. G.L.	0'	Elevation above perm. datum	Elevation K.B. D.F. G.L.
Date	06-20-09			
Run Number	ONE			
Depth Driller	902'			
Depth Logger	904'			
Bottom Logged Interval	904'			
Top Log Interval	30'			
Casing Driller	6.625" @ 20'			
Casing Logger	NOT REACHED			
Bit Size	6"			
Type Fluid in Hole	BENTONITE			
Density / Viscosity	N/A			
pH / Fluid Loss	N/A			
Source of Sample	PIT			
Rm @ Meas. Temp	5.23 @ 77F			
Rmf @ Meas. Temp	4.23 @ 77F			
Rmc @ Meas. Temp	N/A			
Source of Rmf / Rmc	MEAS			
Rm @ BHT	N/A			
Time Circulation Stopped	0 HOURS			
Time Logger on Bottom	0430 PM			
Max. Recorded Temperature	N/A			
Equipment Number	PS-1			
Location	L.A.			
Recorded By	Ozman Trad			
Witnessed By	Dave Akola			

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Comments

ELOG Calibration Report

Serial:	D1
Model:	DTQ
Shop Calibration Performed:	Wed Jan 28 14:40:45 2009
Before Survey Verification Performed:	Mon Aug 06 11:54:10 2007
After Survey Verification Performed:	Mon Aug 06 11:54:38 2007

Shop Calibration								
	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	10.916	101.981		10.200	102.200	Ohm-m	1.010	-2.328
Long	15.254	104.296		10.200	102.200	Ohm-m	1.033	-14.246
IEE	83.389	24228.514	counts	0.091	26.516	A		
VSN	103.676	2918.243	counts	1.977	55.662	V		
VLN	34.667	0.000	counts	0.661	0.000	V		

Before Survey Verification												
			Readings				References				Results	
			Zero	Cal			Zero	Cal			Gain	Offset
Short			183.906	100.821			9.828	100.799	Ohm-m		-1.095	211.190
Long			422.542	101.924			101.776	101.776	Ohm-m		-0.317	134.130
IEE			59.028	6394.075	counts		0.065	6.998	A			
VSN			121.963	7242.794	counts		2.326	138.147	V			
VLN			70.056	1830.495	counts		1.336	34.914	V			

After Survey Verification								
Readings			References			Results		
	Zero	Cal		Zero	Cal		Gain	Offset
Short	117.548	100.824		183.906	100.821	Ohm-m	4.968	-400.076
Long	271.705	101.931		101.924	101.924	Ohm-m	1.888	-90.571
IEE	92.849	6387.565	counts	0.102	6.991	A		
VSN	122.623	7235.648	counts	2.339	138.011	V		
VLN	70.858	1828.759	counts	1.352	34.881	V		

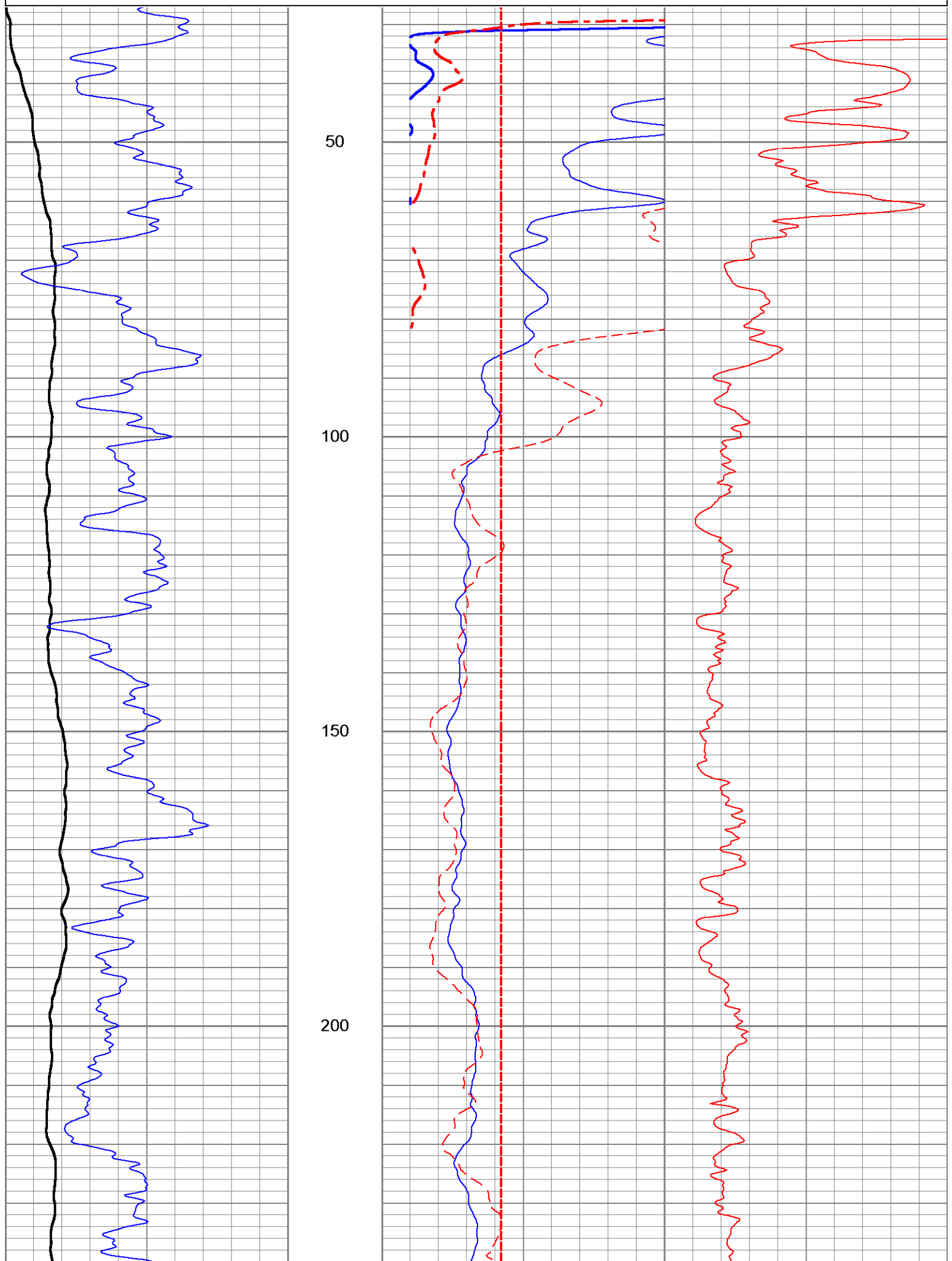
After Survey Verification compared to Before Survey Calibration							
	Zero			Cal			
	Before	After		Before	After		
Short	9.828	183.906	Ohm-m	100.799	100.821	Ohm-m	
Long	0.000	422.542	Ohm-m	101.776	101.924	Ohm-m	

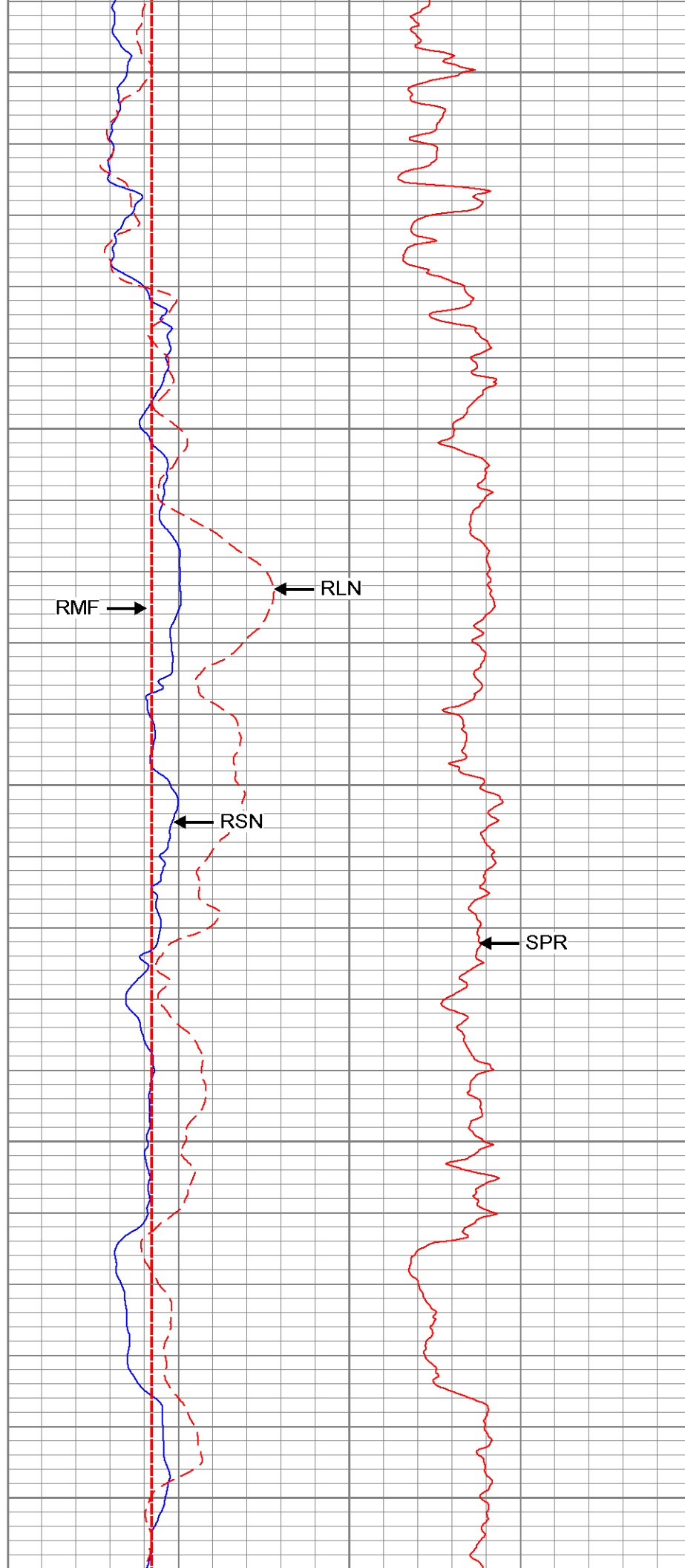
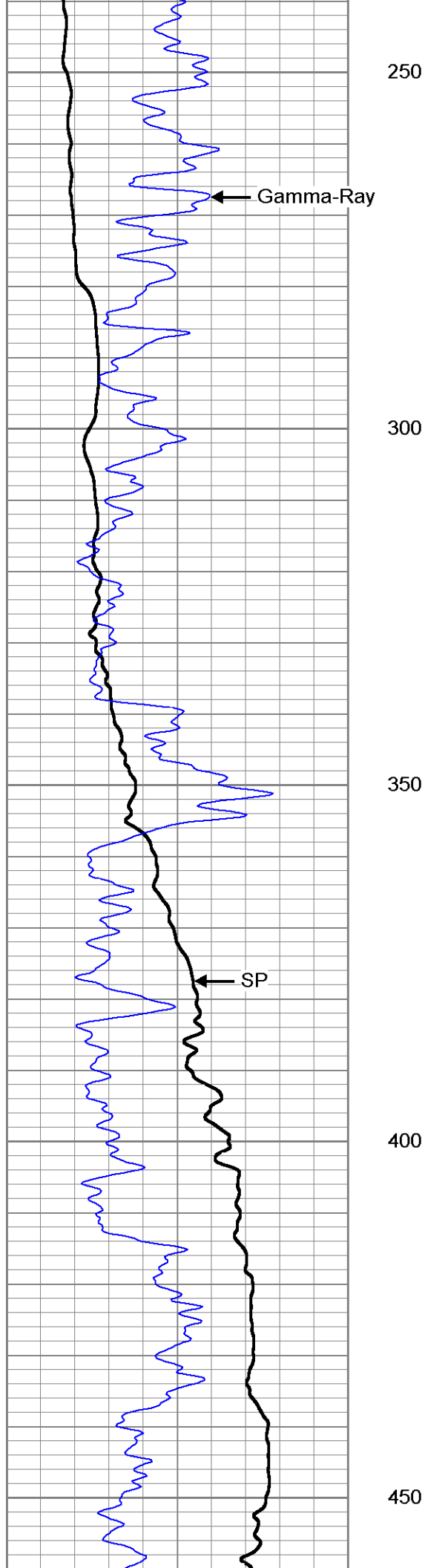
Gamma Ray Calibration Report			
Serial Number:	D1		
Tool Model:	ELOG		
Performed:	Mon Sep 29 13:55:50 2008		
Calibrator Value:	162	GAPI	
Background Reading:	151.12	cps	
Calibrator Reading:	599.794	cps	
Sensitivity:	0.361064	GAPI/cps	

Database File:	14710.db
Dataset Pathname:	wdc/well/run1/elog3.4
Presentation Format:	ELOG
Dataset Creation:	Mon Jul 20 15:27:19 2009 by Calc Warrior Version 6.6
Charted by:	Depth in Feet scaled 1:240

-165	SP (mV)	45	0	RSN (Ohm-m)	10	0	SPR (Ohm-m)	10
20	Gamma-Ray (GAPI)	160	0	RLN (Ohm-m)	10			
			0	RMF (Ohm-m)	10			
			10	RSN x 10 (Ohm-m)	100			

10 RLN x 10 (Ohm-m) 100





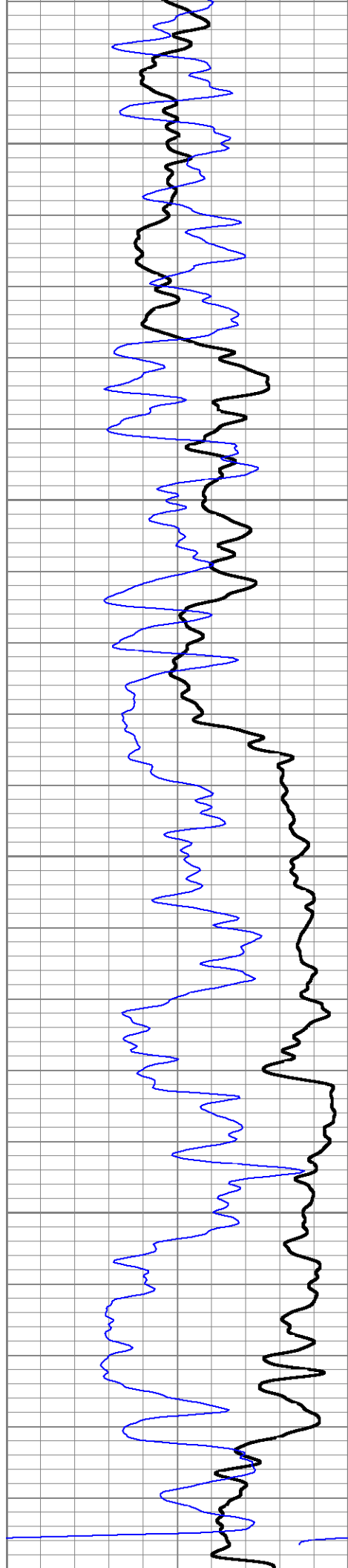
500

550

600

650

1



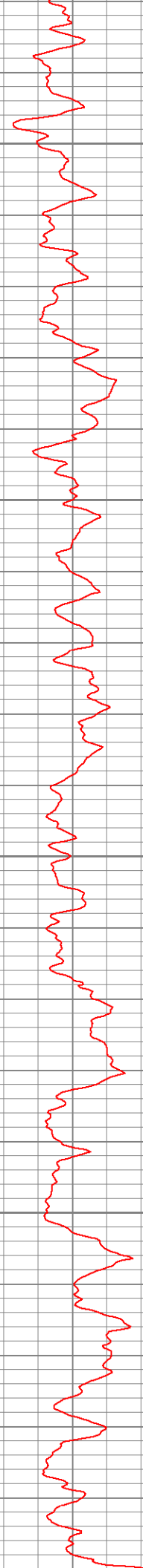
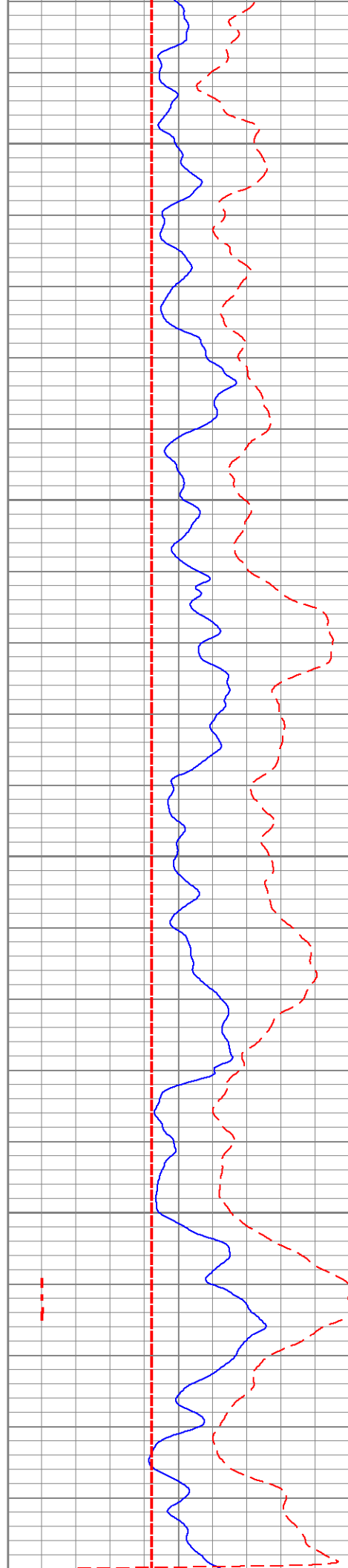
700

750

800

850

900



			900					
-165	SP (mV)	45	0	RSN (Ohm-m)	10	0	SPR (Ohm-m)	10
20	Gamma-Ray (GAPI)	160	0	RLN (Ohm-m)	10			
		0	RMF (Ohm-m)	10				
		10	RSN x 10 (Ohm-m)	100				
		10	RLN x 10 (Ohm-m)	100				

Job No. 14640	Company WDC EXPLORATION & WELLS		Well TW-1		Field FORD DRY LAKE		County RIVERSIDE		State CA		
Location: FORD DRY LAKE GPS: N33°40.419' W 115°03.261'						Other Services: ELOG GRLL3 SONIC/DEV					
Sec. Twp.		Rge.									
Permanent Datum Log Measured From Drilling Measured From	G.L. G.L.	0'		Elevation above perm. datum		K.B. D.F. G.L.					
Date	5/19/2009										
Run Number	ONE										
Depth Driller	561'										
Depth Logger	564'										
Bottom Logged Interval	563'										
Top Log Interval	70'										
Casing Driller	N/A										
Casing Logger	N/A										
Bit Size	10.5"										
Type Fluid in Hole	BENTONITE										
Density / Viscosity	N/A										
pH / Fluid Loss	N/A										
Source of Sample	N/A										
Rm @ Meas. Temp	N/A										
Rmf @ Meas. Temp	N/A										
Rmc @ Meas. Temp	N/A										
Source of Rmf / Rmc	N/A										
Rm @ BHT	N/A										
Time Circulation Stopped	3 HOURS										
Time Logger on Bottom	10:30 AM										
Max. Recorded Temperature	N/A										
Equipment Number	PS-1										
Location	L.A.										
Recorded By	ABREAU										
Witnessed By	N. BEAL										

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Comments

XY Caliper Calibration Report

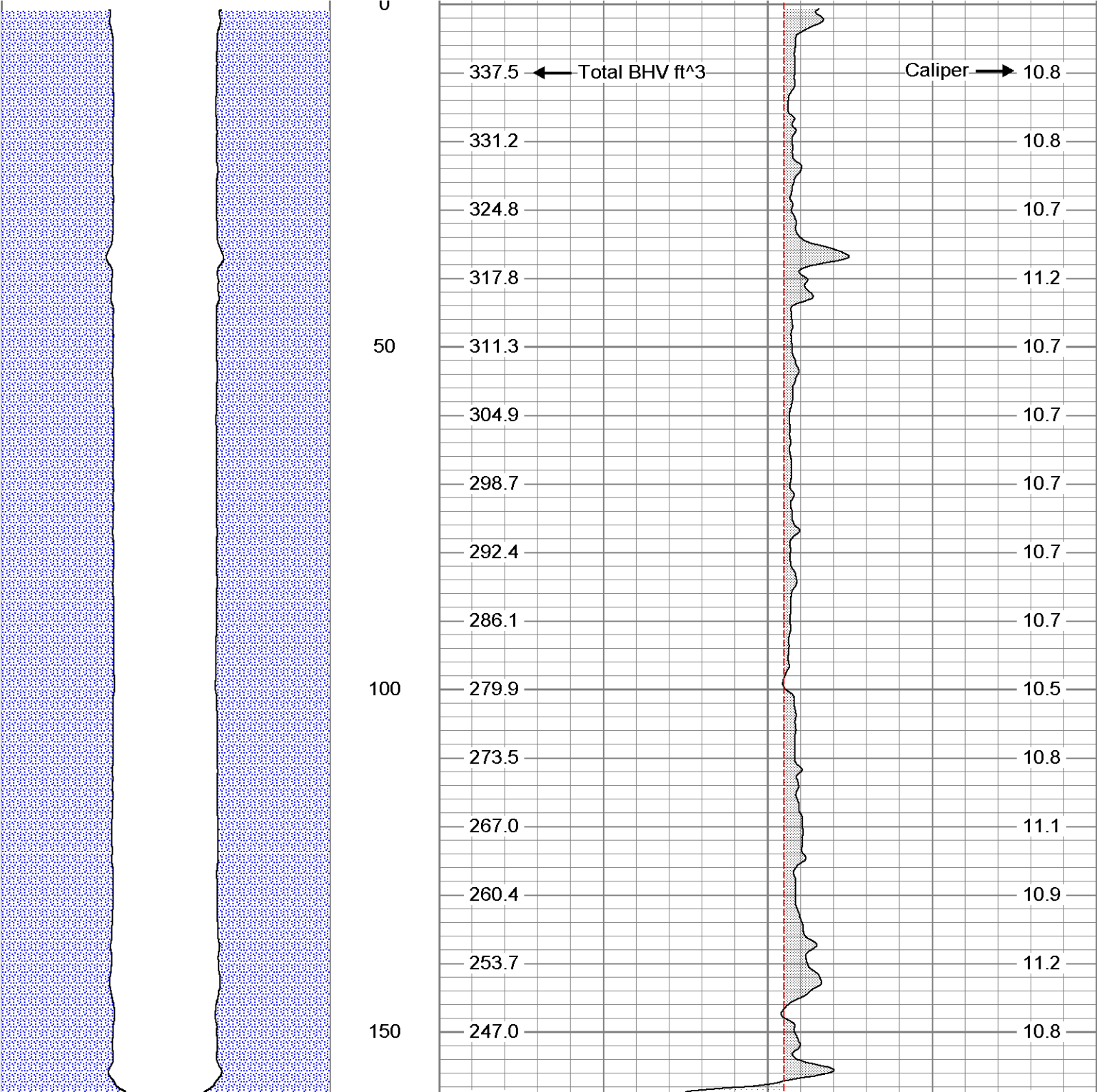
Serial Number: Long
 Tool Model: Comprobe
 Performed: Sat Dec 13 16:35:26 2008

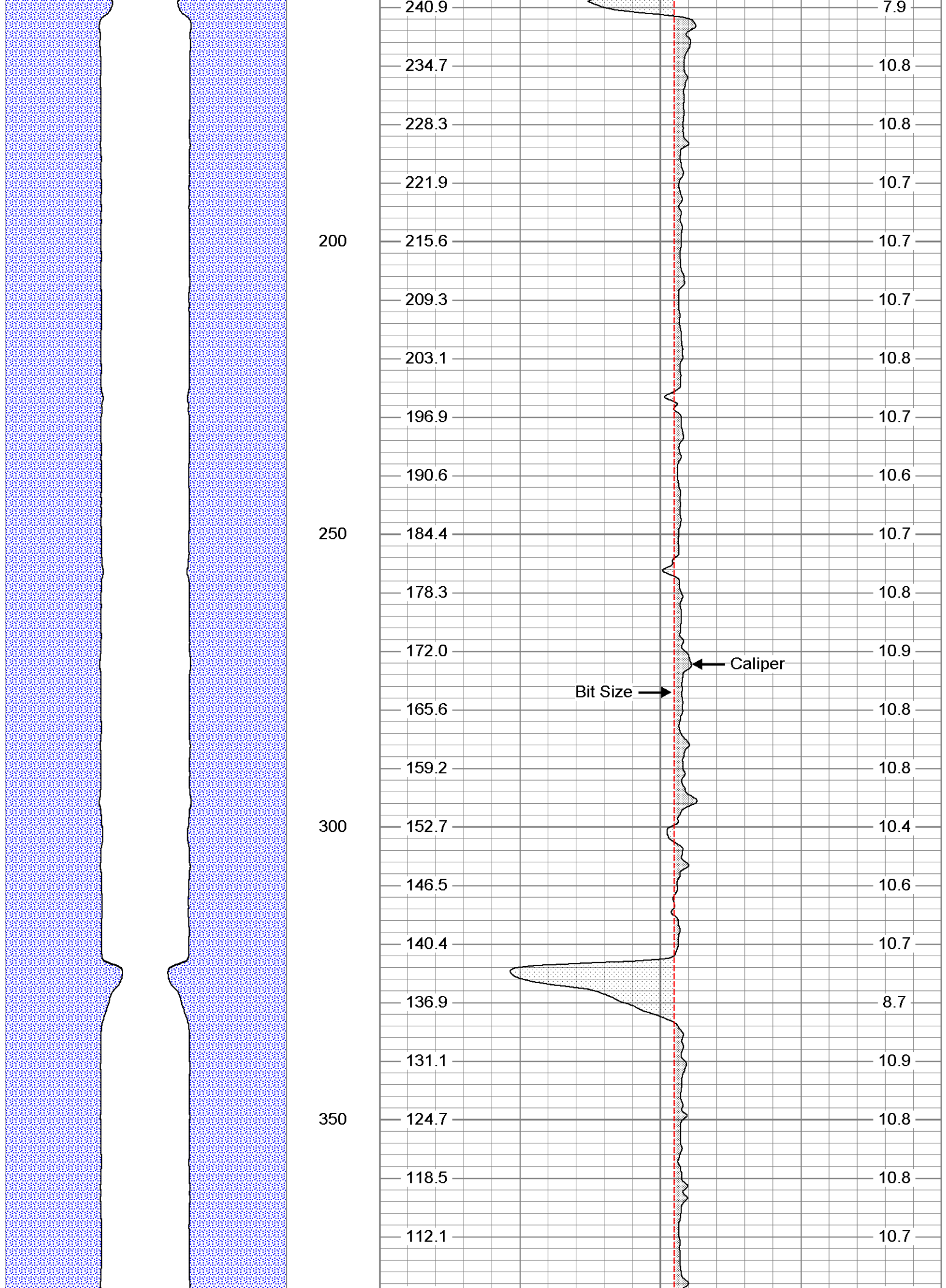
Small Ring: 21.05 in
 Large Ring: 39.05 in

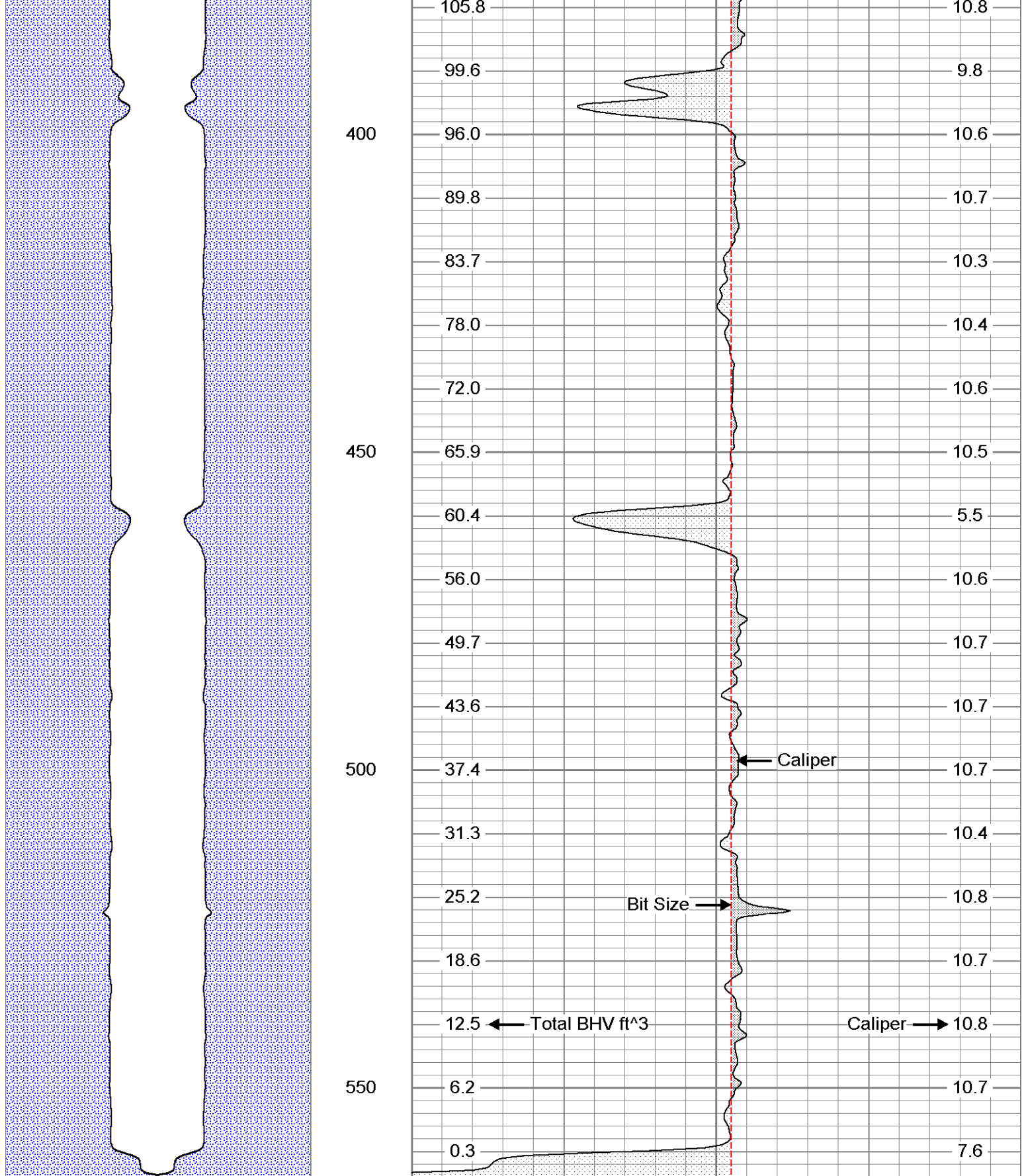
	X Caliper	Y Caliper	
Reading with Small Ring:	1290.95	1290.95	cps
Reading with Large Ring:	2029.02	2029.02	cps
Gain:	0.0243877	0.0243877	
Offset:	-6.4332	-6.4332	

Database File:	14640.db
Dataset Pathname:	cal.1
Presentation Format:	XYC_GPH
Dataset Creation:	Tue May 19 11:50:35 2009 by Calc Warrior Version 6.6
Charted by:	Depth in Feet scaled 1:240

Borehole Image	0	Caliper (in)	20
	0	Bit Size (in)	20
	20	Caliper back-up (in)	40







Borehole Image

0	Caliper (in)	20
0	Bit Size (in)	20
20	Caliper back-up (in)	40

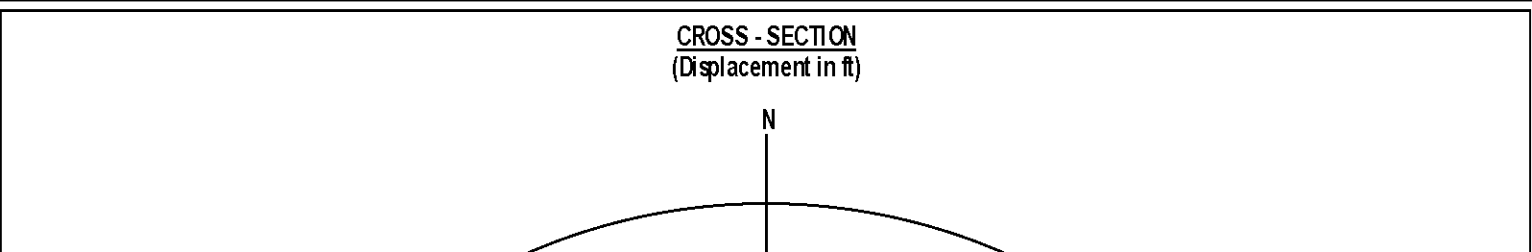
DEVIATION SURVEY

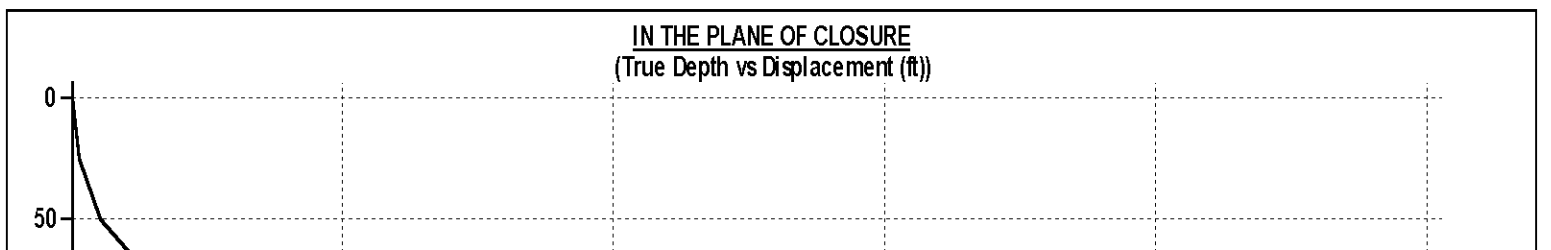
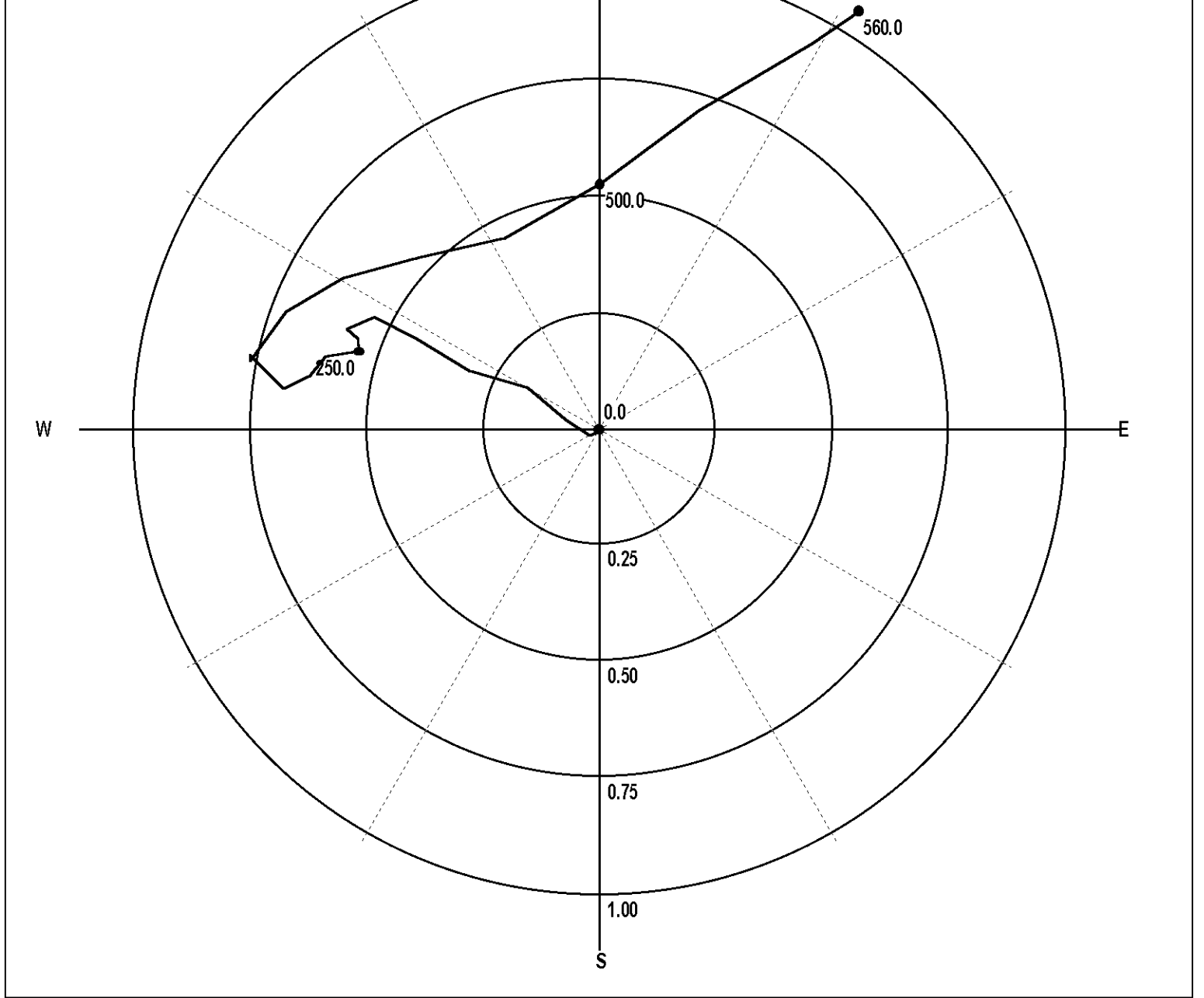
Job No. 14640		Company WDC EXPLORATION & WELLS	
Well TW-1		Field FORD DRY LAKE	
County RIVERSIDE		State CA	
Location: FORD DRY LAKE GPS: N33°40.419' W 115°03.261'		Other Services: ELOG GRLL3 CALIPER/SONIC	
Sec.	Twp.	Rge.	
Permanent Datum Log Measured From Drilling Measured From	G.L. G.L. G.L.	0'	Elevation above perm. datum
Date	5/19/2009		Elevation K.B. D.F. G.L.
Run Number	ONE		
Depth Driller	561'		
Depth Logger	564'		
Bottom Logged Interval	563'		
Top Log Interval	70'		
Casing Driller	N/A		
Casing Logger	N/A		
Bit Size	10.5"		
Type Fluid in Hole	BENTONITE		
Density / Viscosity	N/A		
pH / Fluid Loss	N/A		
Source of Sample	N/A		
Rm @ Meas. Temp	N/A		
Rmf @ Meas. Temp	N/A		
Rmc @ Meas. Temp	N/A		
Source of Rmf / Rmc	N/A		
Rm @ BHT	N/A		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	10:30 AM		
Max. Recorded Temperature	N/A		
Equipment Number	PS-1		
Location	L.A.		
Recorded By	ABREAU		
Witnessed By	N. BEAL		

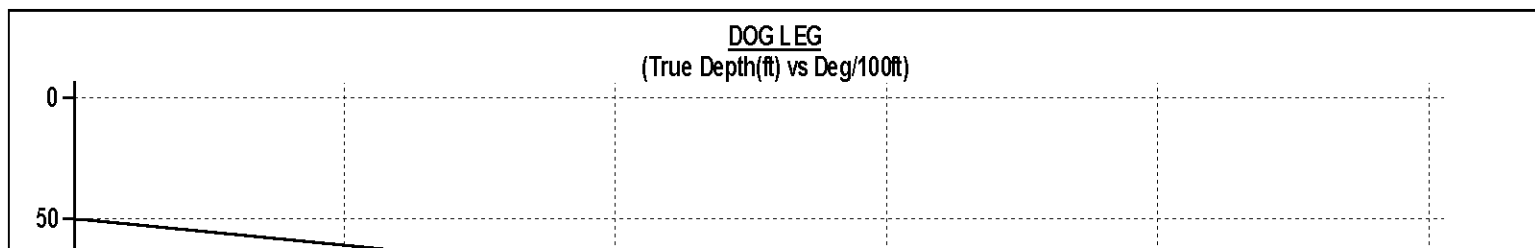
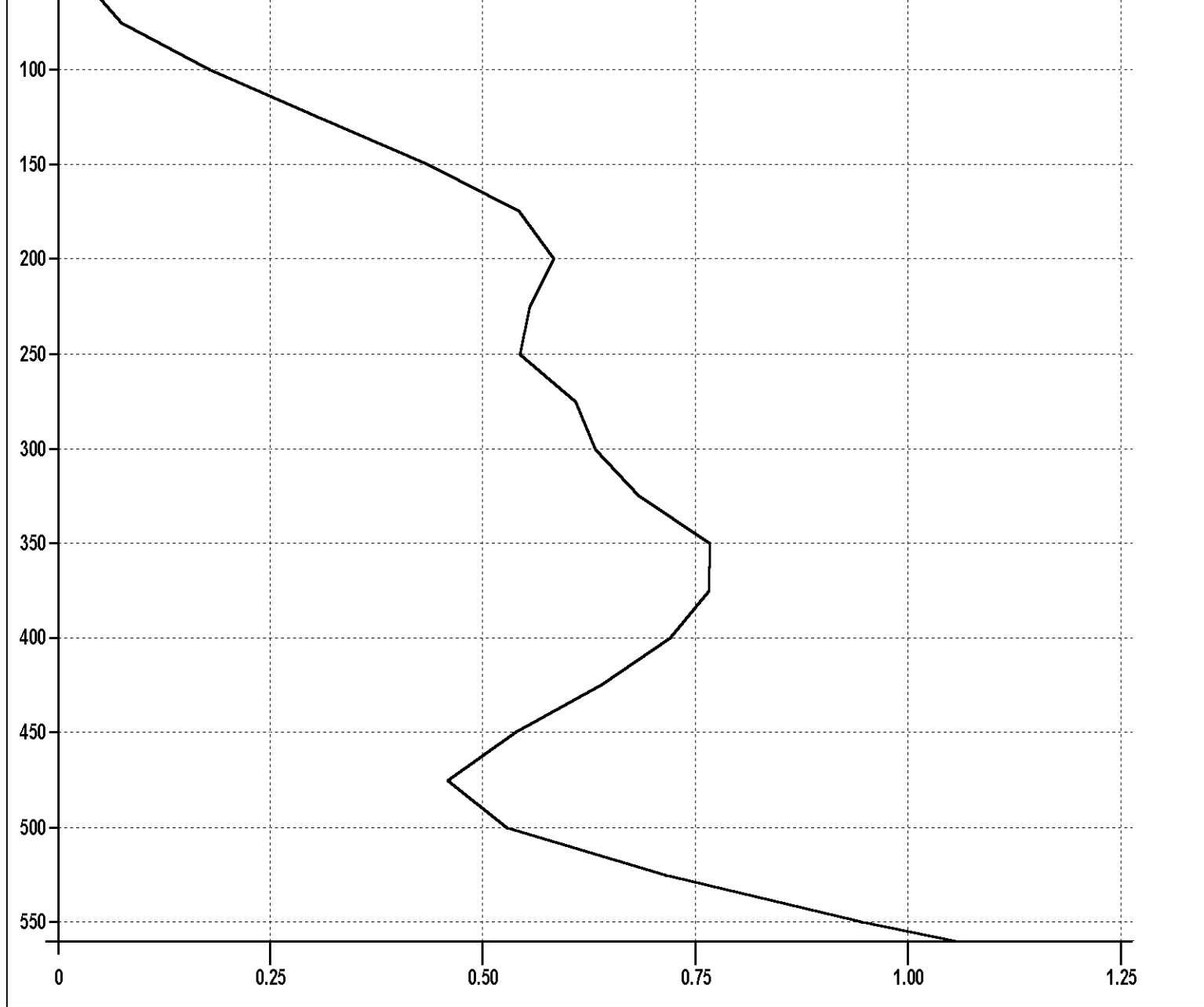
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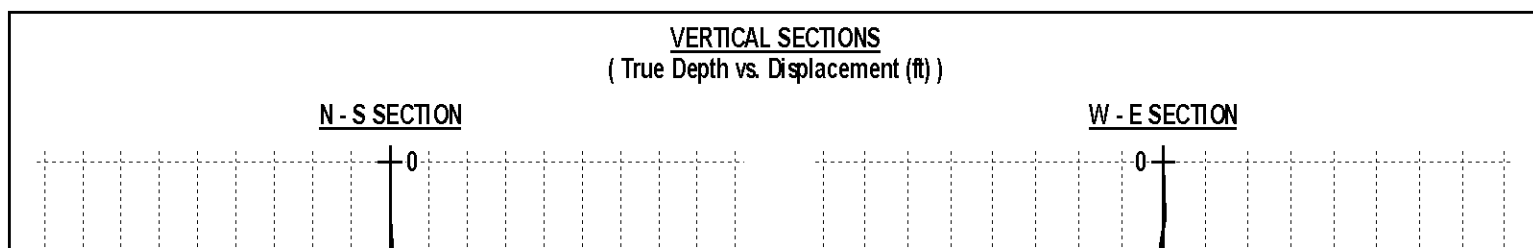
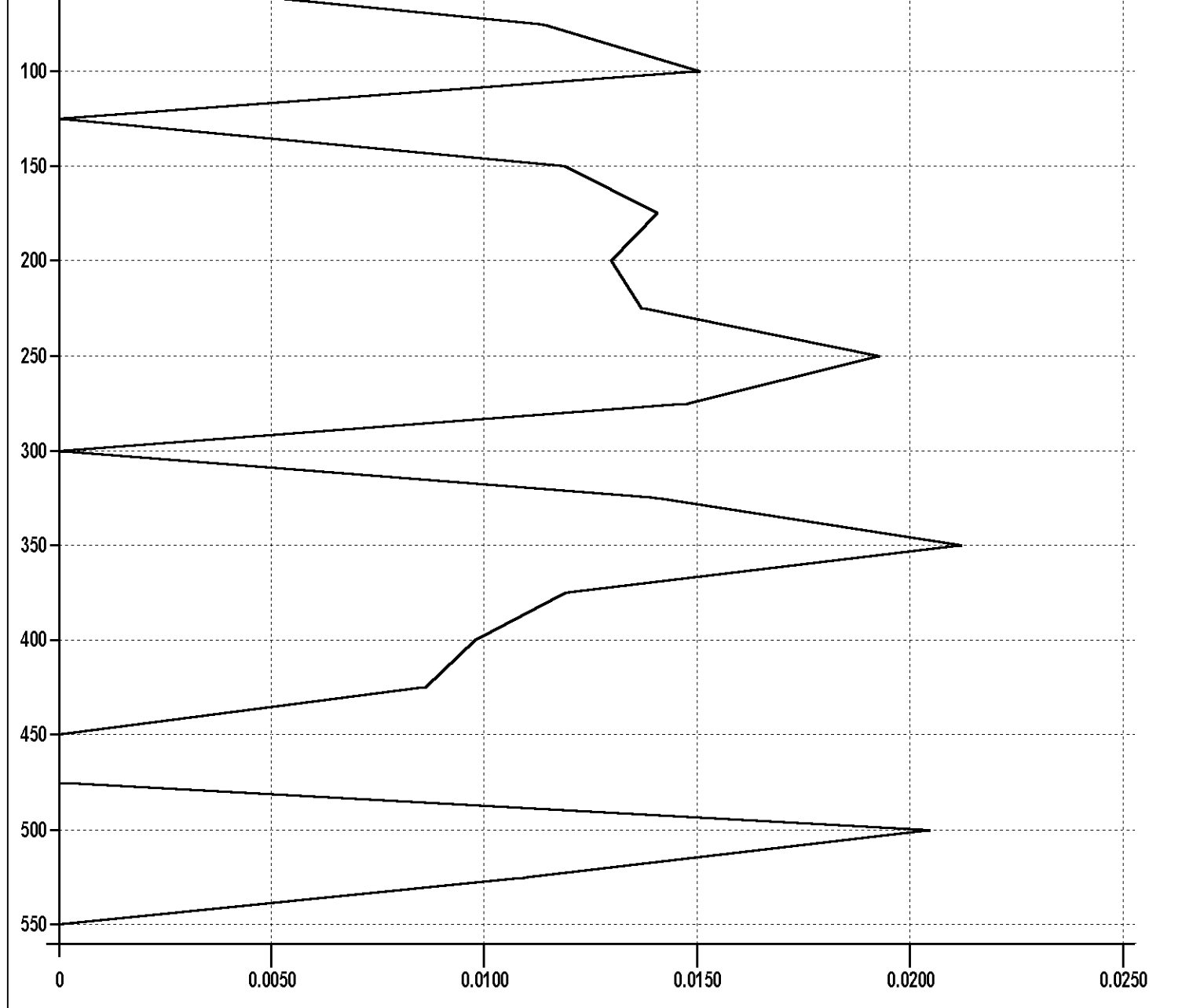
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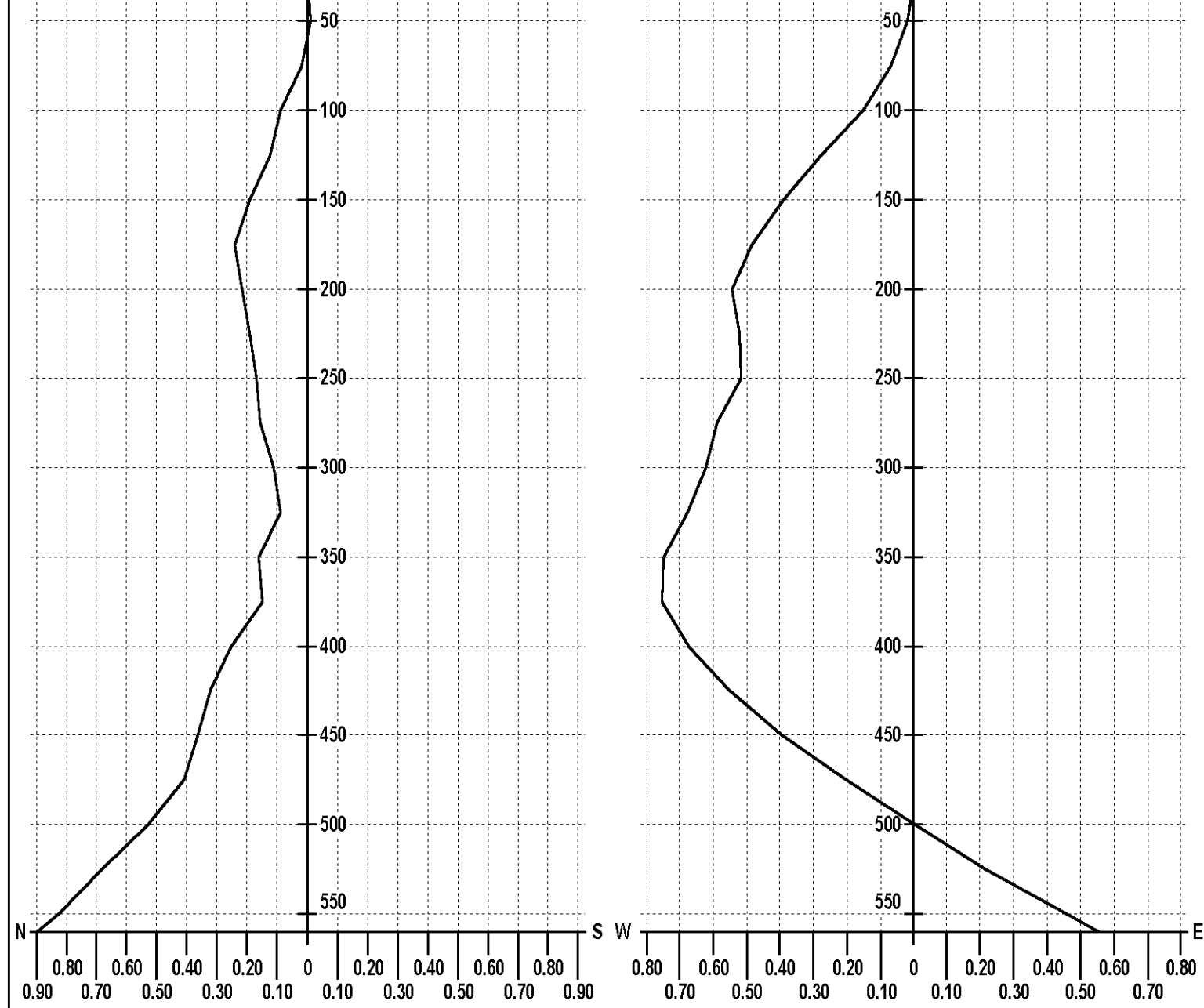
Comments











Entered Depth (ft)	Entered Inc. (deg)	Entered Azimuth (deg)	TVD (ft)	N/S Dep. (ft)	W/E Dep. (ft)	Total Dep. (ft)	Dep. Angle (deg)	Dog Leg (deg/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0000
25.0	0.05	204.00	25.0	-0.0	0.0	0.0	-78.00	0.0000

50.0	0.10	281.00	50.0	-0.0	-0.0	0.0	54.06	0.0000
75.0	0.20	332.00	75.0	0.0	-0.1	0.1	-72.69	0.0114
100.0	0.30	287.00	100.0	0.1	-0.2	0.2	-59.68	0.0151
125.0	0.30	285.00	125.0	0.1	-0.3	0.3	-65.74	0.0000
150.0	0.30	318.00	150.0	0.2	-0.4	0.4	-63.60	0.0119
175.0	0.20	277.00	175.0	0.2	-0.5	0.5	-63.38	0.0141
200.0	0.10	214.00	200.0	0.2	-0.5	0.6	-68.14	0.0130
225.0	0.10	56.00	225.0	0.2	-0.5	0.6	-69.40	0.0137
250.0	0.20	298.00	250.0	0.2	-0.5	0.5	-71.97	0.0193
275.0	0.15	226.00	275.0	0.2	-0.6	0.6	-74.92	0.0148
300.0	0.10	209.00	300.0	0.1	-0.6	0.6	-79.47	0.0000
325.0	0.20	280.00	325.0	0.1	-0.7	0.7	-82.50	0.0140
350.0	0.30	350.00	350.0	0.2	-0.7	0.8	-77.84	0.0212
375.0	0.30	23.00	375.0	0.1	-0.8	0.8	-78.81	0.0119
400.0	0.30	50.00	400.0	0.3	-0.7	0.7	-69.43	0.0098
425.0	0.35	70.00	425.0	0.3	-0.6	0.6	-59.62	0.0086
450.0	0.40	79.00	450.0	0.4	-0.4	0.5	-47.03	0.0000
475.0	0.50	75.00	475.0	0.4	-0.2	0.5	-26.25	0.0000
500.0	0.60	46.00	500.0	0.5	0.0	0.5	0.42	0.0205
525.0	0.60	61.00	525.0	0.7	0.2	0.7	17.37	0.0109
550.0	0.70	58.00	550.0	0.8	0.5	0.9	28.97	0.0000
560.0	0.70	52.00	560.0	0.9	0.6	1.1	31.88	0.0000

PACIFIC SURVEYS

SONIC VELOCITY VARIABLE DENSITY

Job No. 14640	Company WDC EXPLORATION & WELLS		Other Services:	
	Well TW-1			
	Field FORD DRY LAKE			
	County RIVERSIDE	State CA		
Location: FORD DRY LAKE GPS: N33°40.419' W 115°03.261'				
Sec.	Twp.	Rge.	ELOG GRLL3 CALIPER/DEV	
Permanent Datum Log Measured From Drilling Measured From	G.L. G.L. G.L.	0'	Elevation above perm. datum	Elevation K.B. D.F. G.L.
Date	5/19/2009			
Run Number	ONE			
Depth Driller	561'			
Depth Logger	564'			
Bottom Logged Interval	563'			
Top Log Interval	70'			
Casing Driller	N/A			
Casing Logger	N/A			
Bit Size	10.5"			
Type Fluid in Hole	BENTONITE			
Density / Viscosity	N/A			
pH / Fluid Loss	N/A			
Source of Sample	N/A			
Rm @ Meas. Temp	N/A			
Rmf @ Meas. Temp	N/A			
Rmc @ Meas. Temp	N/A			
Source of Rmf / Rmc	N/A			
Rm @ BHT	N/A			
Time Circulation Stopped	3 HOURS			
Time Logger on Bottom	10:30 AM			
Max. Recorded Temperature	N/A			
Equipment Number	PS-1			
Location	L.A.			
Recorded By	ABREAU			
Witnessed By	N. BEAL			

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

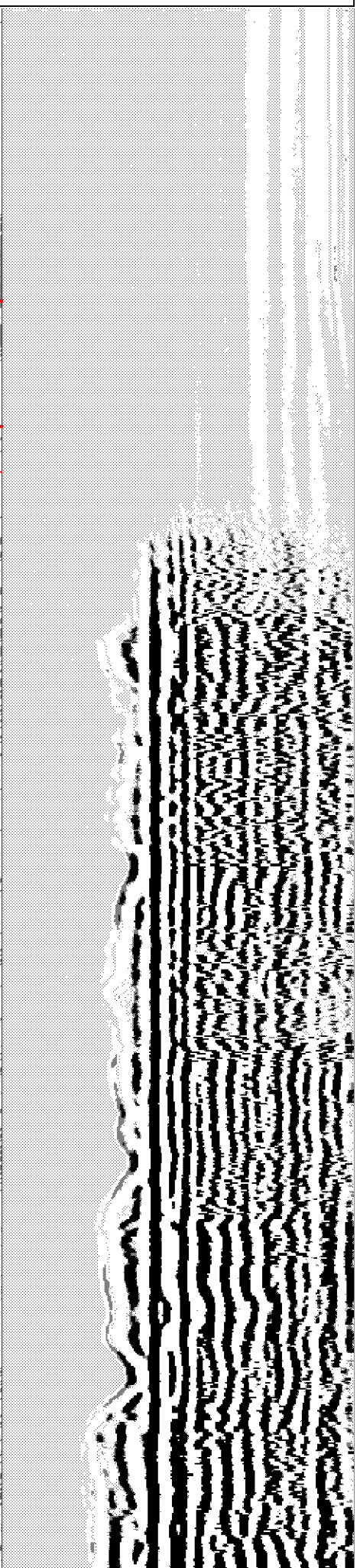
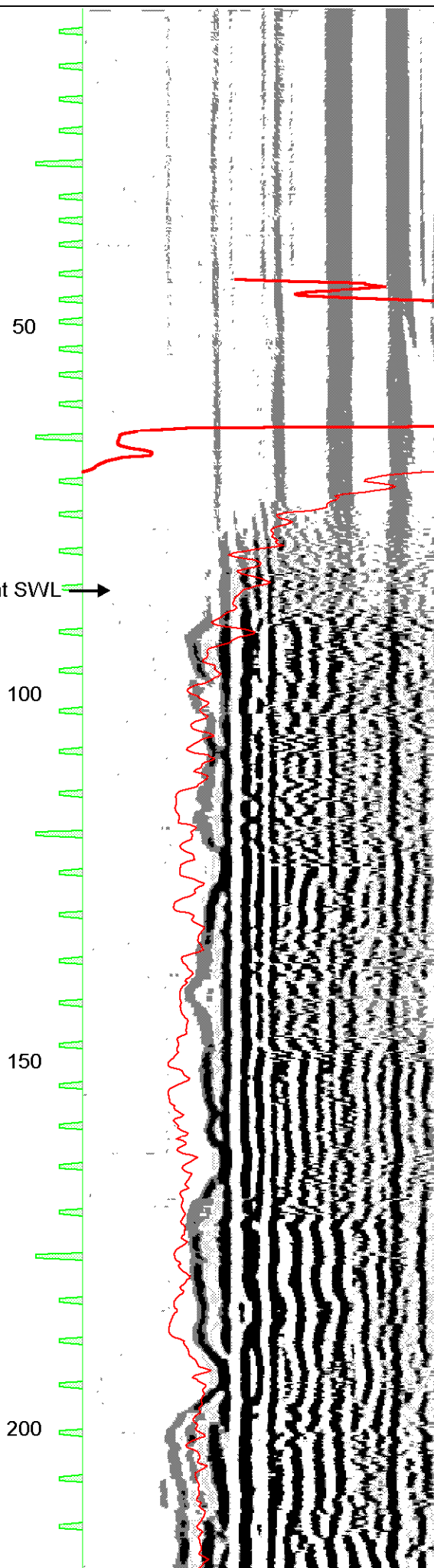
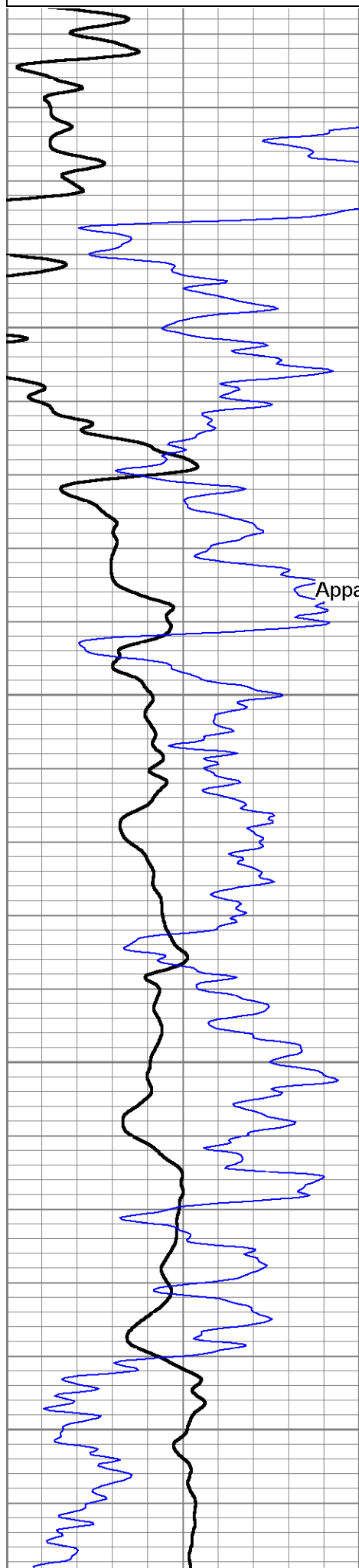
Comments

Database File: 14640.db
 Dataset Pathname: SNC
 Presentation Format: SLT
 Dataset Creation: Tue May 19 12:04:43 2009 by Log Warrior Version 6.6
 Charted by: Depth in Feet scaled 1:240

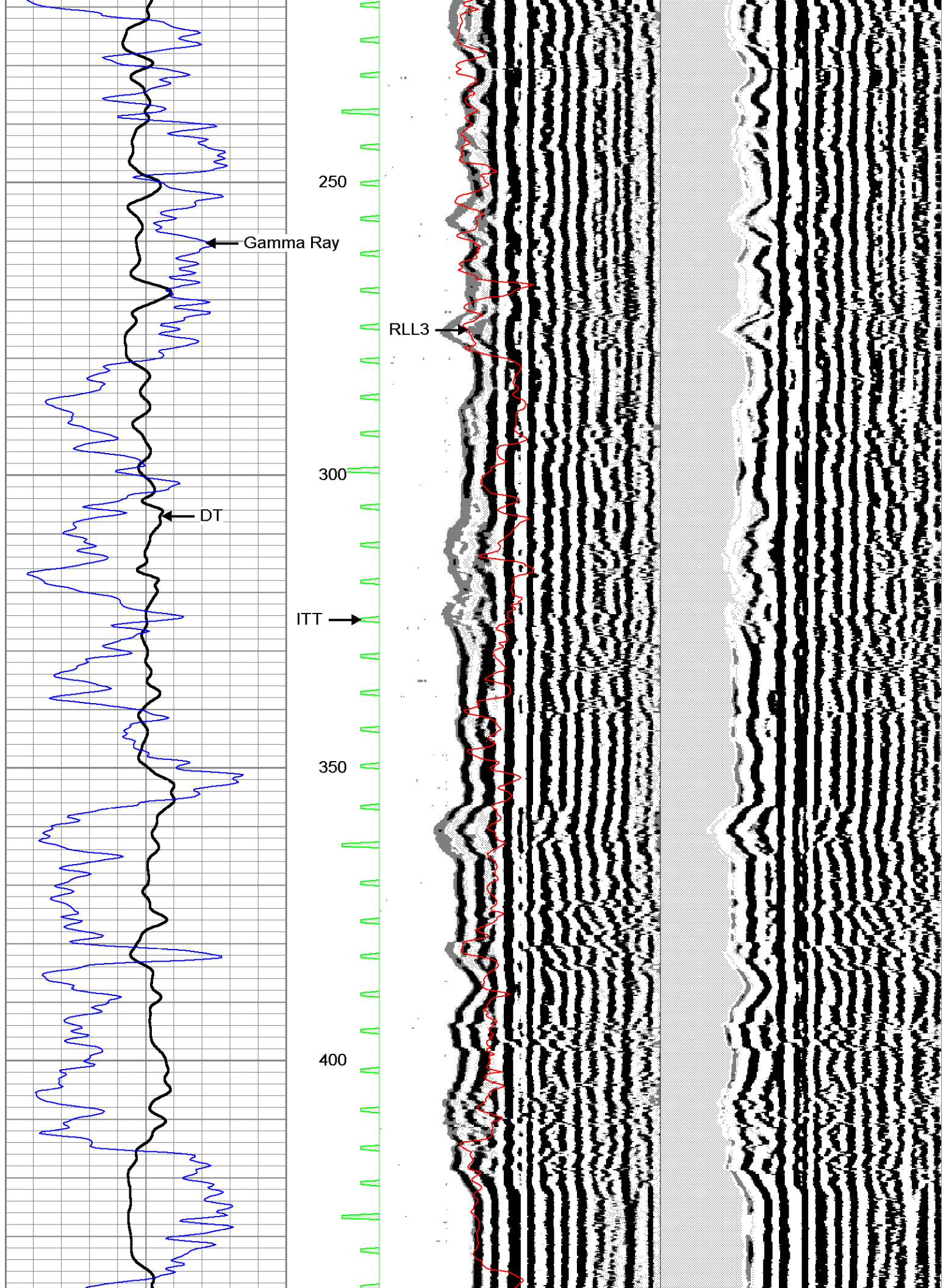
260	DT (usec/ft)	60	ITT (msec)	600	Variable Density 5 ft	1600	600	Variable Density 5 ft	1600
40	Gamma-Ray (GAPI)	110		0	RI 1.3 (Ohm-m)	10			

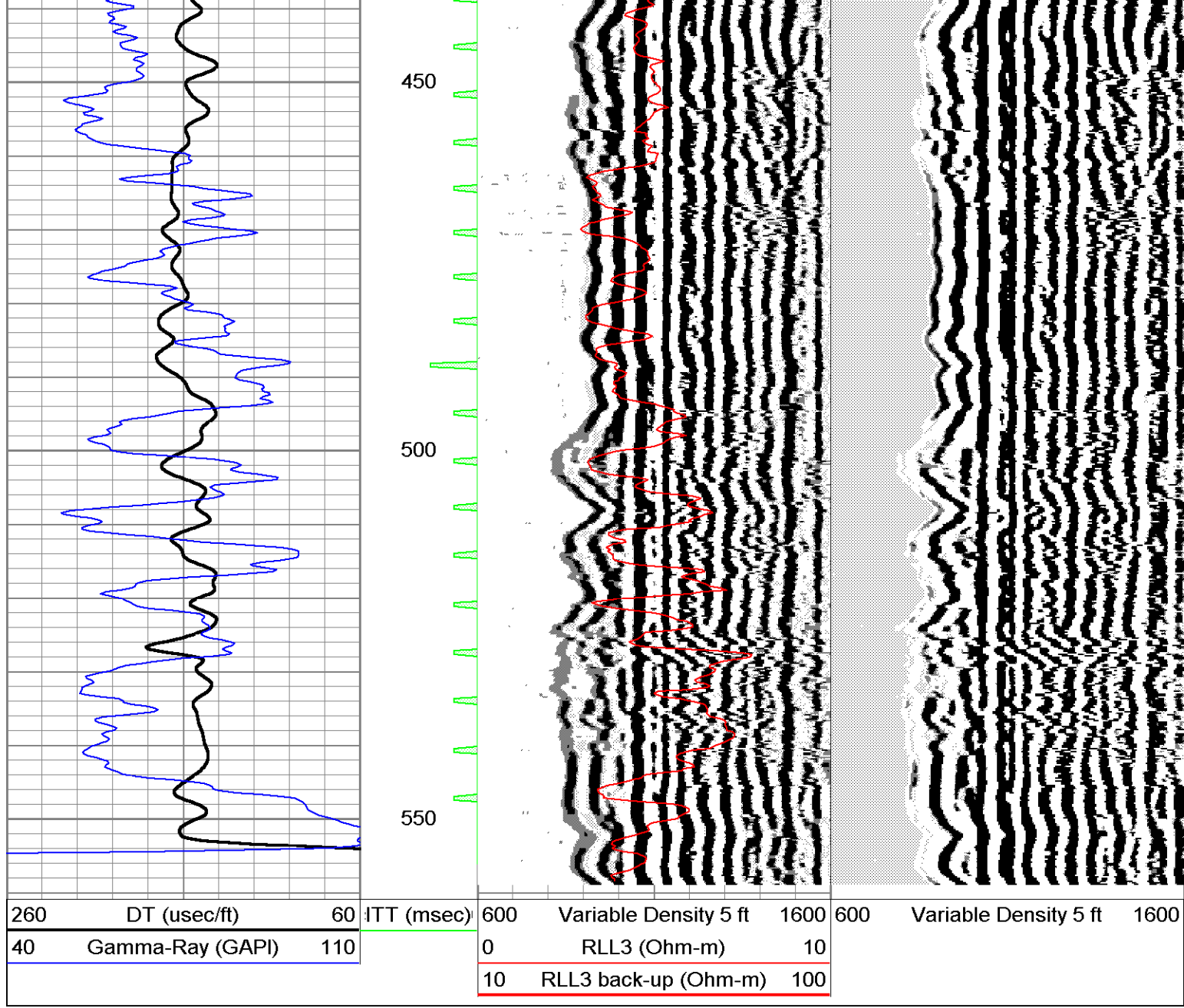
Gamma Ray (GAPI) 110

RLL3 (Ohm-m) 10



Apparent SWL →





**PACIFIC
SURVEYS**

LATEROLOG 3 GAMMA RAY

Job No. 14640	Company WDC EXPLORATION & WELLS	Well TW-1	Field FORD DRY LAKE	County RIVERSIDE	State CA
File No.					
Location: FORD DRY LAKE GPS: N33°40.419' W 115°03.261'					Other Services: ELOG CALIPER SONIC/DEV
Sec.	Twp.	Rge.			
Permanent Datum Log Measured From Drilling Measured From	G.L. G.L. G.L.	0'	Elevation above perm. datum	K.B. D.F. G.L.	
Date	5/19/2009				
Run Number	ONE				
Depth Driller	561'				
Depth Logger	564'				
Bottom Logged Interval	563'				
Top Log Interval	70'				
Casing Driller	N/A				
Casing Logger	N/A				
Bit Size	10.5"				
Type Fluid in Hole	BENTONITE				
Density / Viscosity	N/A				
pH / Fluid Loss	N/A				
Source of Sample	CIRCULATED				
Rm @ Meas. Temp	1.98 @ 77F				
Rmf @ Meas. Temp	1.72 @ 77F				
Rmc @ Meas. Temp	N/A				
Source of Rmf / Rmc	MEAS				
Rm @ BHT	N/A				
Time Circulation Stopped	3 HOURS				
Time Logger on Bottom	10:30 AM				
Max. Recorded Temperature	N/A				
Equipment Number	PS-1				
Location	L.A.				
Recorded By	ABREAU				
Witnessed By	N. BEAL				

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Comments

Gamma Ray Calibration Report

Serial Number: 13
 Tool Model: GROH
 Performed: Mon Sep 29 14:35:52 2008

 Calibrator Value: 162 GAPI

 Background Reading: 36.9056
 Calibrator Reading: 160.261

 Sensitivity: 1.31328 GAPI/

RLL3 (Resistivity Laterolog 3) Calibration Report:

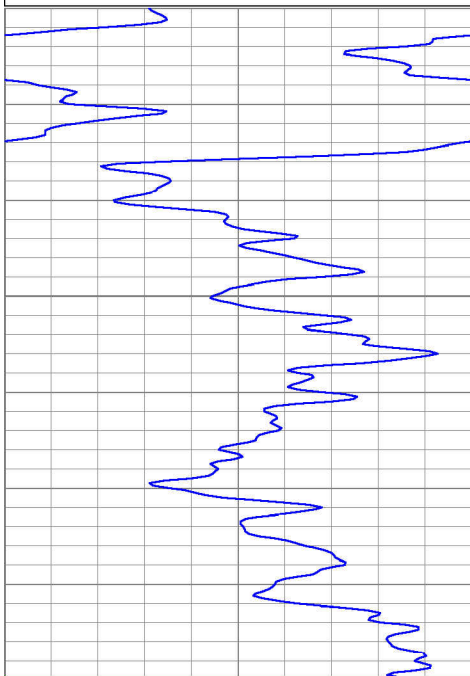
Serial Number: 81
 Tool Model: M&W
 Performed: Wed Jan 28 14:45:28 2009

System Reading	Calibration Reference
0.306	2.500 Ohm-m
0.605	5.000
6.015	50.000
28.373	250.000
56.371	500.000

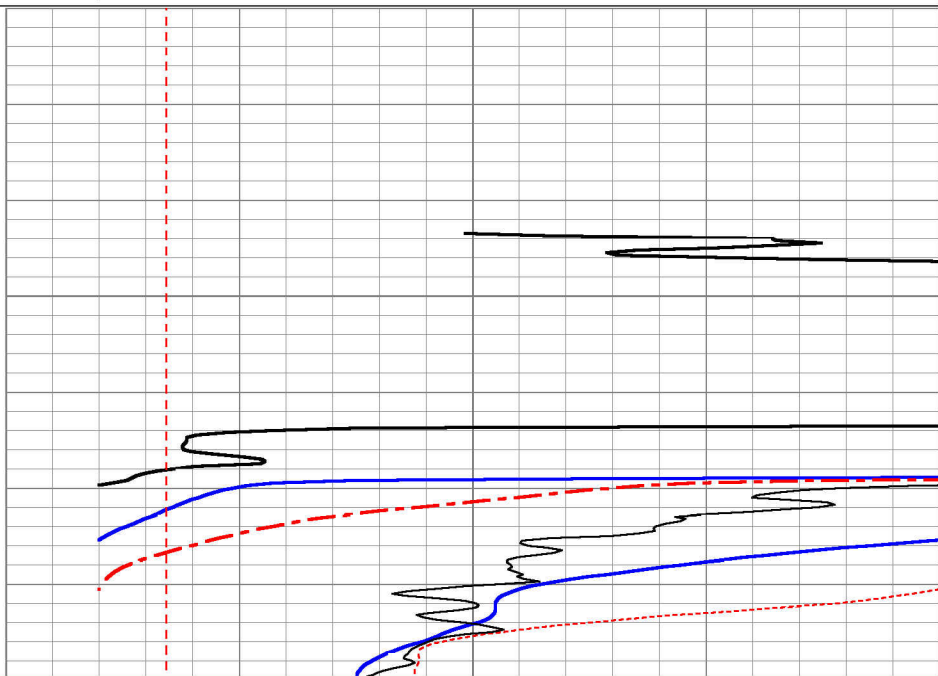
Database File: 14640.db
 Dataset Pathname: II3
 Presentation Format: guard
 Dataset Creation: Tue May 19 08:07:06 2009 by Log Warrior Version 6.6
 Charted by: Depth in Feet scaled 1:240

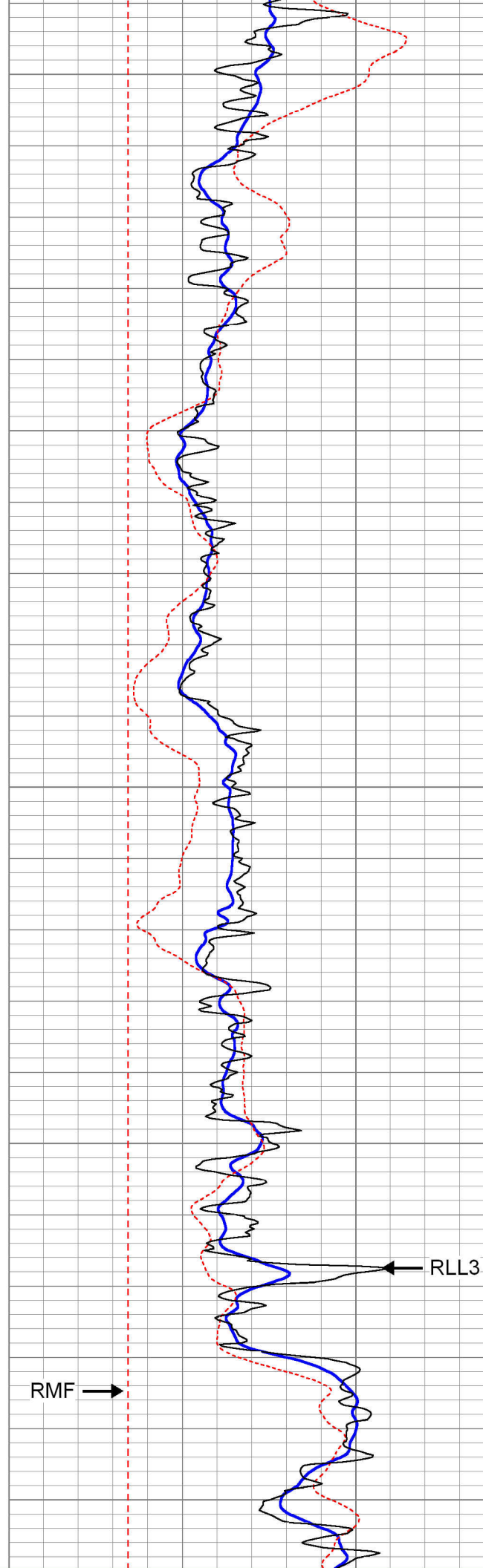
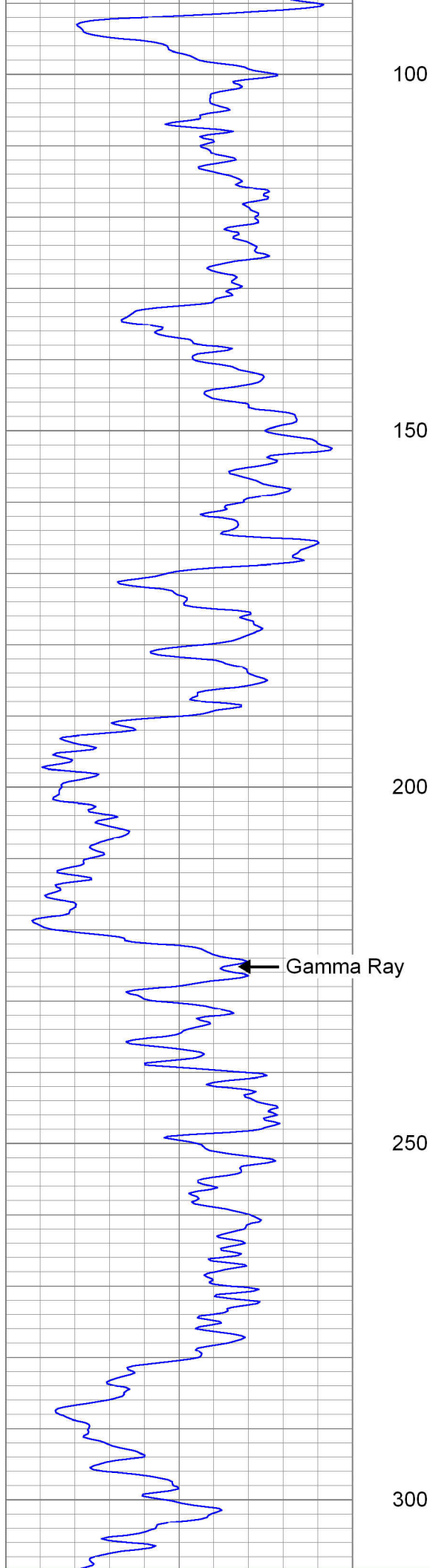
40 Gamma Ray (GAPI) 110

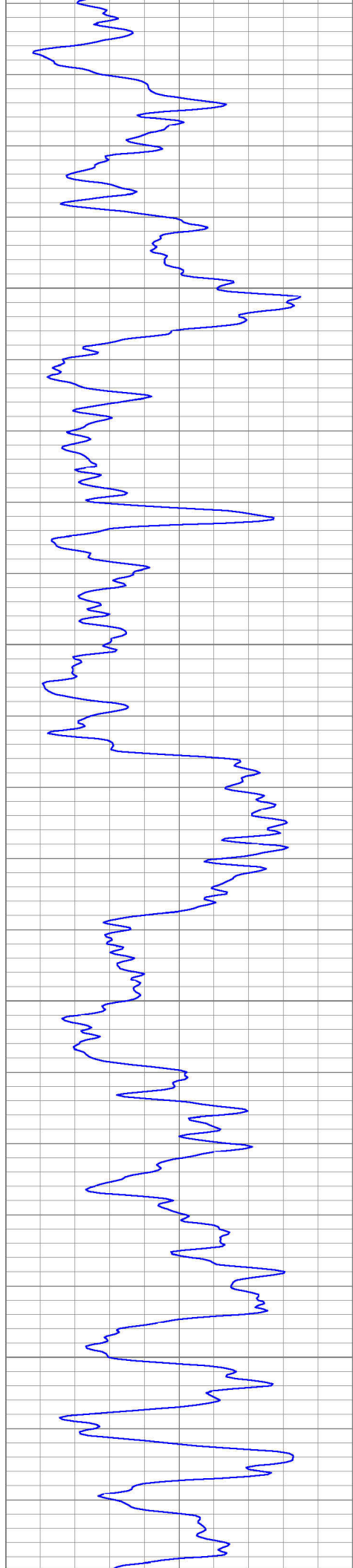
0	RSN (Ohm-m)	10
0	RLN (Ohm-m)	10
0	RMF (Ohm-m)	10
0	RLL3 (Ohm-m)	10
10	RLL3 x 10 (Ohm-m)	100
10	RSN x 10 (Ohm-m)	100
10	RLN x 10 (Ohm-m)	100



50





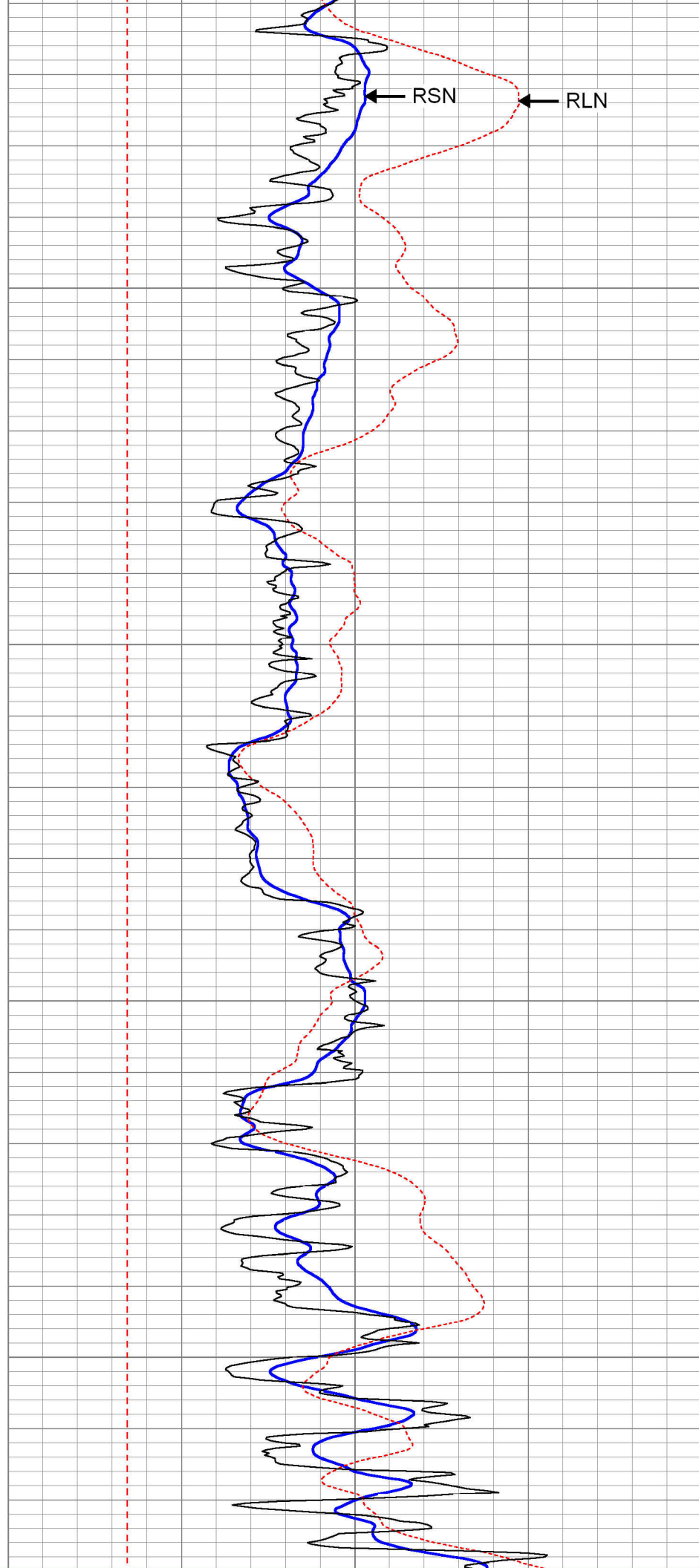


350

400

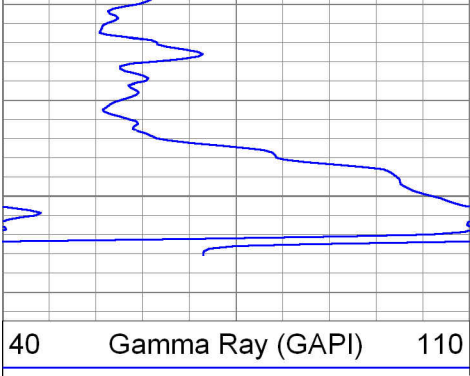
450

500

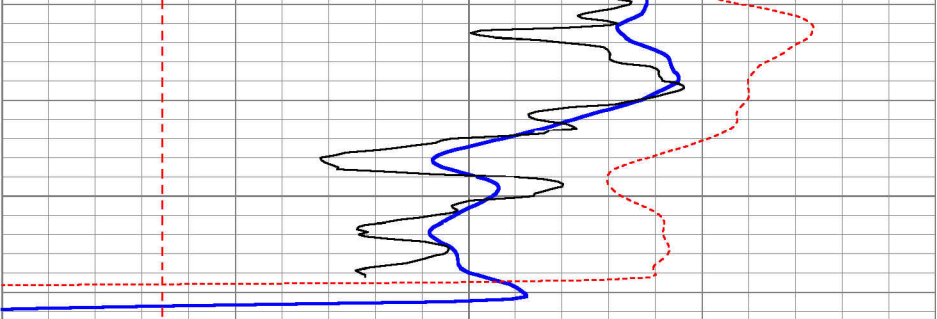


RSN

RLN



550



40	Gamma Ray (GAPI)	110
0	RSN (Ohm-m)	10
0	RLN (Ohm-m)	10
0	RMF (Ohm-m)	10
0	RLL3 (Ohm-m)	10
10	RLL3 x 10 (Ohm-m)	100
10	RSN x 10 (Ohm-m)	100
10	RLN x 10 (Ohm-m)	100